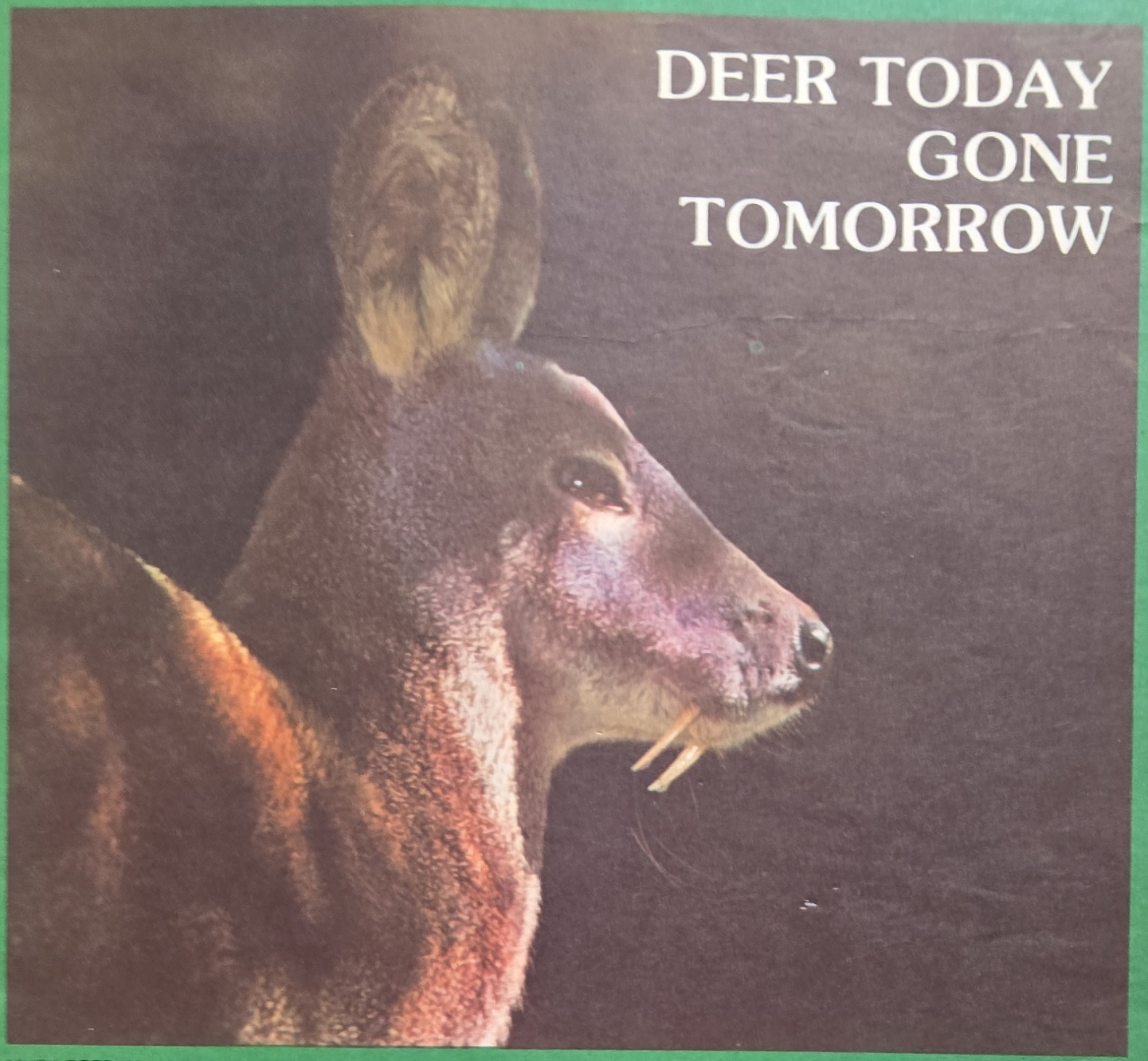
# DEER TODAY GONE TOMORROW



MUSK DEER (Maschus moshiferus)
Dachigam National Park, Kashmir, India

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# *Wildlifer at large*

*Friends of mine who view my interest in the environment with amusement, often confront me with the typical middle class question—"What do you get out of it?" It's a good question and one that offers many individuals who have a stake in exploiting natural resources the right to vent their chagrin at our role in promoting public awareness of ecology-related issues.*

*When we started in April we had nothing but ambitious plans and the single minded determination that we would make it work. We began with Rs.500 and the goodwill of friends. We are today one issue old and our world is still filled with seemingly insurmountable problems and frustrations. What we get out of it and what makes it all worth our while is that every individual we have encountered since the inception of this publication has admitted that he is wondering, like us, whether trading breath-taking beauty for polluted air is progress; whether bulldozers, stripmining and a host of other insults that we heap upon our countryside is in fact improving the quality of lives of people who live on the land, and, whether destroying the home of wildlife and stripping forests bare of their trees in order to make short term profit should be permitted to offset long term returns that nature has to offer for all of us.*

*The recent floods throughout the country are indicative of the dichotomy between the fiction of concern and the facts of practical public responsibility. Floods occur largely because of poor drainage systems.*

*No generation has viewed the problem of the survival of the species with as many seminars and sermons as we have. Ironically, no other generation has done as much damage to the environment.*

*Drainage systems provided by nature fail to function because man has found it convenient to ignore the symbiotic relationship between natural systems and human settlements. The suicidal policies followed lead to the cutting of wooded areas, the destruction of streams and the disruption of related natural processes without realizing that nature itself offers the best water control system ever devised. Wetlands deter floods, woodlands stabilize soil and prevent soil erosion, and supplies of water underground nourish and protect the surface of the Earth during dry periods. The people of U.P. Orissa, Madhya Pradesh and Rajasthan would not have had to suffer the great hardships caused by recent floods and the people of Andhra Pradesh to suffer drought if we had kept these principles in mind.*

*The argument has often been made and very justly, that it is pointless to talk of conservation prerogatives if it excludes population. Population is the biggest environmental issue that India faces today. Improving the quality of life is without meaning if the environment is going to bear the burden of supporting more individuals per land area than it can. The much publicized creation of a new department of environment at the Centre is meaningless if those who guide the destiny of this nation are going to, for political reasons or otherwise, deliberately avoid taking tough decision to check population growth. Options for survival appear to be running out both for us and for our endangered environment. The time to act is now.*

Tony Jesudasan

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INDIAN
# Wildlifer
Volume I No. 2 Aug-Sept. 1981

## 8
**The Real King of the Jungle**
***by Romulus and Zahida Whitaker.***

Romulus Whitaker or 'Uncle Venom' as he is affectionately referred to by his friends, and photo editor Rajesh Bedi visited King Cobra country—the middle Andamans Island for a date with the real king of the jungle.

"King Cobra country gives me the same feeling that being in elephant country gives me," Whitaker writes. "My reflexes quicken and I take in and classify every little sound as if my life depended on it". Bedi's life certainly depended on his reflexes during their exciting sojourn. While taking pictures a small baby cobra crawled right towards his camera lens just to say 'hello'.

Romulus Whitaker is founder and honorary director of the Madras Snake Park Trust.

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**Worshipping The Snake**
***Photofeature by Naresh Bedi.***

People may refer to their enemies as 'a real snake in the grass'. However real snakes in the grass are not only taken seriously in India but also worshipped—for everything from fertility, and the desire to have a male offspring to good luck, virility, and wealth. Naresh Bedi's camera records in colour orthodox India's ceremonial rituals featuring the snake.

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"Crocodiles wallowing in the mud of the Nile, or Garials in the Indus, are sights which one is prepared to encounter. But the traveller may wander far before he meets with a scene so strange and unexpected as that described", writes Andrew Leith Adams in his book "Wanderings of a Naturalist" published in 1867.

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**As Far As the Falcon Flies**
***by S.M. Osman.***

The knights of the Roundtable felt naked if they hunted without their hooded falcons. In India rich and poor enjoyed the sport. Hawks and falcons were the perpetual companions of Guru Gobind Singh and in AD 1628 Shah Jehan waged war on the Guru and his companions after their hawk had captured the Emperor's favourite rare white hawk, a battle the sikhs won. S.M. Osman descendant of the great king of Afghanistan is considered by many to be the greatest living expert on the peregrine falcon. His association with these hunting birds inspired him to study the factors that make the peregrine falcon so different from the other members of the family. A jug of wine, a falcon pucked on one wrist and thou beside me. What else could one want?

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***Photofeature by Naresh Bedi.***

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***by Man Mohan Singh I.A.S.***

How did in the last two thousand years more than 80 species of birds perish? How could man wipe out a magnificent bird like the Passenger Pigeon who roamed the vast skies in flights that were more like clouds of millions of them?

Man Mohan Singh's thoughtful essay on why it is important to preserve our avifauna will give the reader serious food for thought

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***by Jeffery Campbell.***

Jeffery Campbell's introduction to nature goes back to his school days. Along with a friend who owned a hand operated generator, he would go at night to the suburbs of Delhi in search of Hyena dens. Jeff's profession as a travel escort has helped him further his interest. Every summer since 1978 he has trekked in Ladakh, a land where nature abounds free and man in still governed by its forces. In his article he has vividly captured the beauty and quaintness of the fauna in this exotic land. And when Jeff talks about 'Reflections of a Mountain Donkey', he means not himself but his trusted carrier.

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**Dachigam—A Tale of Ten Villages**
***By James J. Mandros.***

The fauna of Jammu and Kashmir State has a special place in the geographical realm of the world and some of the species of Wild animals such as Kashmir Stag, Brown Bear, snow Leopard and Ibex are unique in the state.

One of the least publicised but perhaps most exciting National Park development schemes is underway just twenty-six kms. outside of Srinagar—at Dachigam. Author James Mandros has made several trips to the Sanctuary with his family.

# The Real King of the Jungle

TEXT BY ROMULUS AND ZAHIDA WHITAKER, PHOTOS BY RAJESH BEDI.

*I stepped from the road into the forest edge and entered another world. Sunlight, no longer oppressive, filtered down in vague patches through the rain forest trees. For the next two hours I was a man in a dream, picking my way slowly through dark corridors of forest, stopping to wonder at the endless array of the beautiful and weird.*

*Plants as familiar as potted house decorations grew ten times bigger here. Birds were scarce and silent. Monotonous cicadas set a mood of sultry mystery. Tree ferns and clinging tendrils choked the banks of occasional streams which gurgled with sparkling water. Here in this forest in the western ghats of southern India, the unnatural urban existence of Madras was gratifyingly remote.*

*Walking up a dry stream bed I crunched fallen leaves; the noise startled a solitary wild boar rooting around for crabs and fish remains in a shallow pool. He stopped for a second to see what I was, then pounded off. Then, at a particularly dark and shady bend in the stream I paused, and my ear tuned in to a slow sliding sound. I was electrified, for I knew what the sound meant: a king cobra.*

The awesome size and appearance of the king cobra has inspired many stories about this largest of the world's venomous snakes. The writer of shikar or jungle tales in India can hardly resist slipping in a chapter on his usually fanciful encounter with one! Most people are completely gullible when it comes to snake stories and practically anything is believed about the great king cobra.

The king is revered by the people of the western ghats, its vernacular names indicating this reverence: *Kalinga Serpa* in Kannada and *Vempadi Murugan* in Malayalam. At tea estates in Kerala workers believed that if disturbed this snake would strike a person on the head. Thus standard headgear donned when a king cobra was seen on a plantation was a flat rock tied to the top of the head. Even today, when a king (or sometimes a pair) takes up residence on an estate, everyone soon knows about it, and often a road, or even a tea field is abandoned while the snake is there.

I walked forward, tense. The place the giant snakes should have been sliding through was a dense patch of vines and bushes on the opposite bank of the dry stream, and the last thing I expected was to nearly trip over a living rope of snake at my feet. But there it was. Eight feet from me along a faintly banded, dark olive body two widely spaced, intelligent eyes watched for my next move, their gaze dramatically highlighted by the magnificent spread hood and raised neck.

I took a step toward the tail and the 12 foot snake slid forward fast. Before I recovered it was three fourths of the way into the patch of bush. I dived for the receding dull black tail and managed to grab the last two feet. Fighting back the thought "what the heck am I doing?" I concentrated on gently but firmly freeing the remaining ten feet of king cobra from the bushes. I expected a long hard pull but this is a different kind of snake, and it displays its resentment at being restrained by charging. The next thing I knew the snake was coming at me open mouthed. I dropped the tail like a hot brick and stepped back sensibly. It responded by trying for the bushes again so I grabbed the tail, fended off the charge with a stick and the whole thing began once more.

To cut a long story short, my big question was how to bag this creature without injury to him or me. The bag I had with me had been specially tailored in Agumbe town the day before to fit a king cobra, but without an able assistant, getting twelve feet of uncooperative serpent inside was a problem.

Both man and snake were tiring; I of the tug of war and he of the

*The King Cobra often feeds on other snakes. Its double hinged jaw and elastic throat permit it to consume prey much larger than itself.*

*A typical cobra nest mound covered with leaves and bark droppings. Females rest on top of the nest for the 60 to 90 days it takes to hatch the eggs.*

harassment. I could see that the king would welcome any retreat at this point and so I somehow managed to spread the bag lengthwise and prop open the mouth with a couple of sticks. Carefully tackling the snake with a stick, I finally brought it around to the opening of the dark blue bag, an inviting cave into which it glided without hesitation. The battle was not quite over; I jumped on the bag's open mouth and gathered it tight before the big head discovered there was no further progress at the other end of bag. I then kneeled down on the end of the bag tied it with a spare tennis shoe lace.

Now jump with me if you will to the steaming forests of Middle Andaman Island, in my fantasies king cobra isle. And in reality we are stopping along a forested slope near Mayabandar, headed toward a bamboo grove where a large snake was seen lying on a mound of leaves. I was with Brian and Allen Vaughan, Karen boys from Mayabandar and expert hunters. Brian had seen the snake a few days before and was quick to tell us when Allen and I returned from a cross island walk in North Andaman.

The king cobra is the only snake known to make a nest. The female chooses a sheltered but not always remote spot and rakes up leaves with loops of her body, constructing a fair sized mound over a foot high and about two feet in diameter. Cobra mating in the Andamans probably takes place in January; nests are made in March and April and the young hatch in June.

King cobras have bred at several zoos and fascinating observations on mating and nest building were made at the Bronx Zoo. The Journal of the Bombay Natural History Society contains some entertaining notes on king cobra nests in Burma but very little else has been recorded. The female apparently rests on top of the nest for the entire 60 to 90 days it takes the eggs to hatch.

Back in the bamboo thickets we were getting rained upon now and I was

fumbling around; trying to watch the spiky bamboo in my path, stay on my feet and keep the camera dry and failing at all there. "There", Brian finally said, halting and pointing to a dark stand of over-hanging bamboo.

My eyes could only start focussing after I had caught my breath so several long second elapsed before I could see what made all the slipping and sliding and leeches worthwhile: a female king, thin but healthy, protectively coiled over her carefully tended nest mound.

We took a few bad pictures in the fading light and sat still watching her for a long time. When we disturbed her she made no lunge at us nor did she spread her hood but just made of into the bamboo. Nineteen eggs were at the bottom of the nest, laid in a neat cup of leaves something like the lining of a birds nest. The soft shelled, elongate eggs were stained brown from the decomposing leaves. The inside of the nest was quite dry and warm compared to where the female had been lying on the soggy and exposed top.

A year later we were looking at another king cobra nest in Middle Andaman, at Karmatang No. 9 , just near the eastern shore of the long island. Rajesh Bedi was with me in response to my urgent telegram **King Cobra nest found in Andamans can you come now?** So in a few days we flagged down the single bus that plies on the Andaman Trunk Road between Rangat and Mayabandar and helped Rajesh unload his pile of camera gear as other passengers nodded knowingly, eyeing the gun-shaped tripod case.

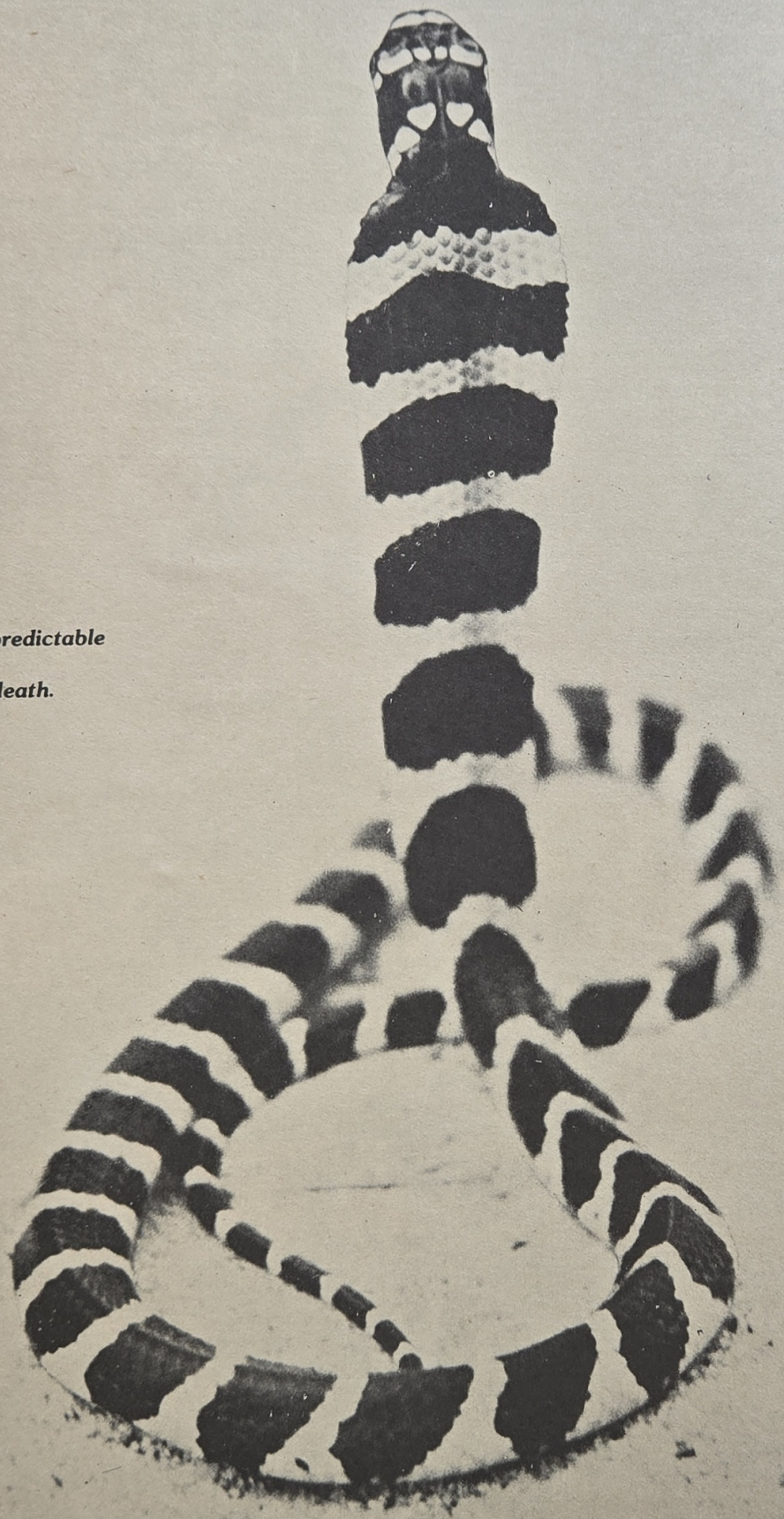
Several hours away from our "camp" at Captain Dennis Beale's house at Panighat we were following our guide to where he had seen the nest several weeks before. Climbing over logs, wading through streams, picking off leeches, we started getting into likely looking country, a lush hillside of bamboo.

Ahead, our guide had stopped and pointed to a bamboo clump a respectable distance away. "We were cutting bamboo for a fence to keep the deer and pig out of the rice fields to poke it with a bamboo. We made him pick out a long one, and feeling afraid we stood back. When he shoved the stick into the leaves a big snake came out of the top of the pile standing straight up with its neck spread out. We ran, we even left our cut sticks behind. And look, you can see the pile is still there. Go and see it if you like but in Bihar there is snake like this which can burn trees with its breath." He stood by and let us pass.

We came to the nest well warned but it was considerably flattened from two

***Rom Whitaker keeps a healthy distance from this king cobra while attempting to capture it.***

*Deadly*
*Mysterious and unpredictable*
*The King Cobra is*
*18 feet of swaying death.*



months of rain and there was no female around. A female king at first apparently creates an upper "chamber" for herself in the mound by crawling into the leaves in the upper strata: After getting beaten by the rain the nest is compacted and she lies exposed.

Digging carefully into the base of the nest I exposed the eggs. Peering in expectantly we saw that all were slit and several small black noses were already emerging. We were exuberant. The female was absent but we had hit the exact hatching day!

Making a hurried shelter we spent the next 24 hours watching and photographing king cobra babies take their first look at the world, having

been spared the appetites of the plentiful water monitor and omnivorous Andaman pig. Small kings are startling with their miniature hoods on a body with bright bands of black and yellow. We made what were perhaps the first observations and photographs of baby king cobras hatching in the wild and the hatchlings did not disappoint us. Sometimes several emerged from the nest at once, and all during day light.

Without exception each one of the 16 hatchlings (100% hatching success) spent very little time messing around on the ground but headed straight up into the bamboo. Several were still visible in the vicinity two days later and one was still there 10 days later according to our Karen friends.

But how fast do the babies grow? The Madras Snake Park was the logical place to find out and with the kind permission of the Andaman Forest Department we were able to hatch the eggs and rear three of the young back in Madras. When they hatched in June 1976 they were 45 cms. long. A year later they averaged 1.5 m. in length and now, three years later the biggest (a male) is over 3 meters.

To see a king in captivity is somewhat painful now. It is true that people who will never get into king cobra country should be enlightened but as with many active, intelligent animals, kings

***Photoeditor Rajesh Bedi is flat on the ground photographing this just born baby cobra.***

caught as adults usually do not live long in captivity. Captive breeding could easily supply the zoo needs in India for king cobras and help ease pressure on the wild snakes. This however is only one small measure against the habitat destruction that threatens all forest dwellers.

## KING COBRA (Ophiophagus hannah)

The king cobra is the largest venomous snake in the world, growing to over 5 metres in length. Its range extends from India through Malaysia and parts of Indonesia and north Philippines and southern China. Within India it is a rare snake, confined mainly to the dense forests of the Western Ghats and northern hill tracts. It is also found in northern Andhra Pradesh, Orissa, Bihar, West Bengal and the Andaman Islands. In the Western Ghats and Assam, the king cobra is sometimes found in tea and coffee plantations at elevations up to 1500 metres above sea level. The king cobra apparently requires special conditions of heavy rainfall and dense undergrowth; however it is not confined to hills but also inhabits mangrove swamps in Bengal, Orissa and the Andamans. In our experience king cobras are timid snakes, unwilling to attack, and seeking escape when possible.

The king cobra behaves with an intelligence and awareness unusual in snakes. The female is the only snake that makes a nest and her presence on the pile of leaves over the eggs deters predators like wildboar, monitor lizards and the mongoose. The venom of the king is less toxic than the common cobras but the massive venom glands have been known to yield over 7 ccs at a single extraction—enough to wipe out an elephant. Antivenom for king cobra bite is not made or sold in India. King cobras are rare snakes within their vanishing forest range and have an uncertain future. They are generally killed when met on plantations. While this magnificent serpent is protected on paper in India (Indian Wildlife Act of 1972), efforts need to be made to publicize its plight and protect it. Already the Bhitar Kanika salt-water crocodile sanctuary in Orissa has included the most important king cobra habitat in that region. A protected area for the king in the Agumbe/Someshwar ghat area of Karnataka would include the best available habitat for the species in south India.

# Worsh the S

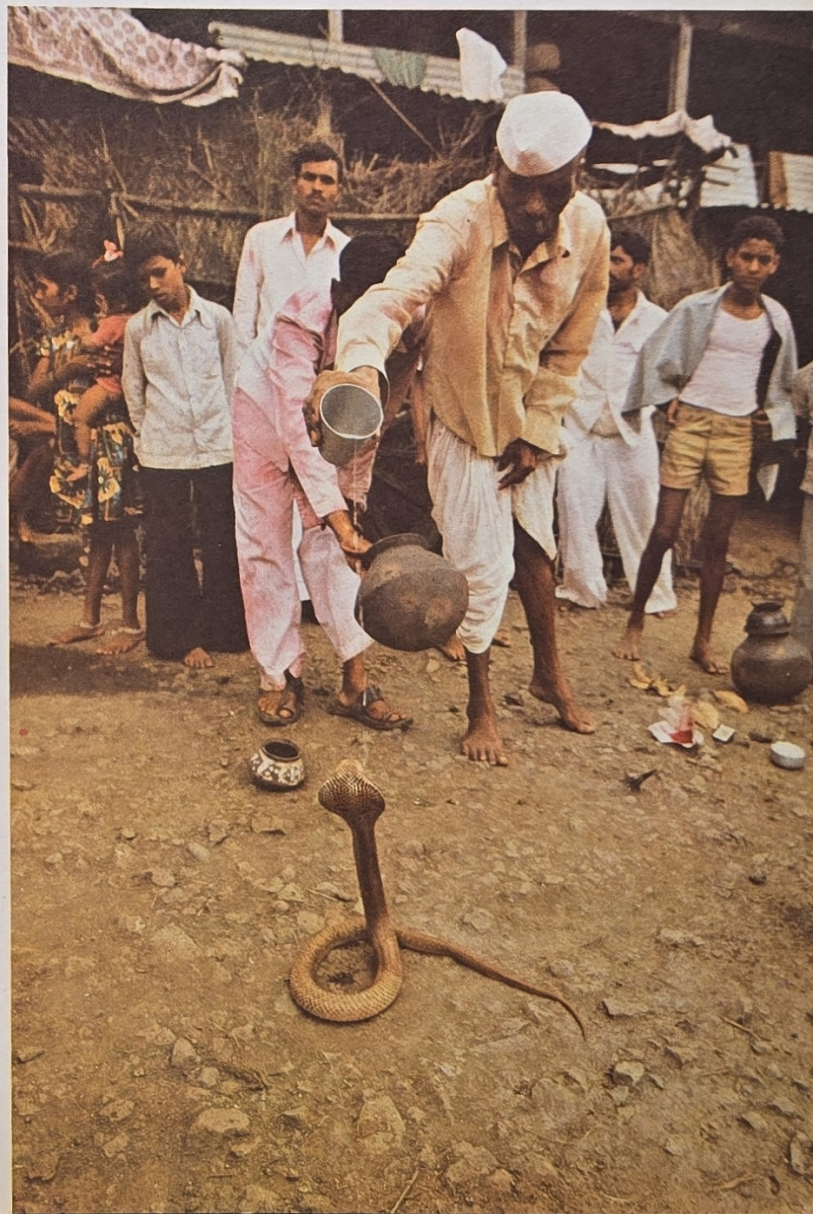
*Photofeature*

*Nagpanchammi comes every year. On the doors and walls of millions of Indian homes, women put up drawings of the snake god and make offerings of milk, rice and kheer. The god Shesh Nag, hindu mythology explains, carries the earth on its hood. Snake chariots are the most desired vehicles of gods as depicted by the picture on top left of Vishnu carried on a Nagwahan by temple devotees in a village outside Madras. Most village folklore have snakes guarding hidden wealth in*

# ipping nake

by Naresh Bedi

*village groves, and thus snakes are also worshipped for wealth. In the left of the two pictures immediately below, women in Madras city offer rice to snakes. In the picture on the right they decorate an anthill, a common snake abode, with garlands, coconuts and plaintains. Picture on top right shows a woman making snake rangoli outside her house during Nagpanchammi. In the picture on bottom right, villagers in Shirala village in Maharashtra offer milk to cobras*



GOPI
GAJWANI

# Dead Hindoo, Dead Hindoo- Where? Where?

The jackal *(Canis aureus)* is seldom visible during the day. At night packs of these animals prowl about the station and at early morning may be observed stalking across the plains in the direction of their caves in ravines. Their wailing cry is very discordant. Often, on a dark night, the traveller is suddenly startled by the bark of a jackal and another at a short distance replies, and soon he is surrounded by ten or twenty whose howlings are sometimes mingled with the hoarse bark of the hyena—like the other, the hyena hunts at night, and is equally partial to carrion and putridity.

The cry of the jackal is peculiar; it is composed of a succession of half-barking, half-wailing cries, on different notes. When properly pronounced there is no better illustration of it than the following words, set to the music of the animals voice—

*"Dead Hindoo-Dead Hindoo!*
*Where where-Where where?*
*Here here-Here here!"*

—being suggestive of a straggler, suddenly uncovering a dead body, and calling on the scattered pack to "come and feast"! They have evidently a predilection for human flesh, and sometimes, especially during epidemics or on a battle field, they have rare opportunities of indulging their appetities. It happened that during my stay at Kurrachee a pack of these animals found their way into a hospital dead-house and mutilated two bodies of persons who had died of cholera.

The Crocodile-pond, or *Mugger-peer* as it is called lies to the north-west of Kurrachee. The journey for the first few miles is of uninteresting description-sandy plains, intersected with deep fissures and ravines, or studded here and there with "scrub", the leander-leafed shrubs plentiful in all waste and desert parts of Scinde. Emerging from a defile which leads through a low range of hills, the traveller enters onto a desert waste, stretching westward towards the mountains of Beloochistan. I visited the crocodiles (crocodiles palusris) on two occasions at an interval of several years, and although during that time they had been seen by hundreds of Europeans, including a certain class of mischievous young English men, (whose chief enjoyment we were told, had been to shy stones and sticks down the throats of the gaping monsters as they lay basking on the banks of the pond) yet there seemed no dimunition in their numbers and the wild and unearthly interest of the scene was to us as great as ever. From beneath a little banyan-tree on the verge of the pond, the spectacle, during the steaming heat of mid-day sun might call up to the mind of a geologist the eons of the world, when the "great monsters" wallowed in the seething waters of the eolithic ages, when the mightly "Ichthyosaurus" and a host of "fearfully great lizards", dragons, etc., reigned supreme over the crocodiles of *Mugger-peer* so then did the magnificent tree-ferns, gigantic reeds, and clubmasses, shelter their extinct predecessors.

The greater pond is about 300 yards in circumference, and contains many little grassy islands on which the majority of the crocodiles were basking; some were asleep on its stony sides, others half-submerged in the muddy waters, while now and then a huge monster would rise himself upon his diminutive legs and waddling for a few paces, fall flat on his belly. The largest crocodile lives in a narrow tank separate from others. The *fakirs*, and natives who worship in the neighbouring temples have painted his forehead red—they venerate the old monster, making a *salaam* to his majesty whenever he shows himself over water. A handsome young Beloochee, whose occupation it was to feed the animals, informed us that the said king was upwards of 200 years old(?) and that, by way of a "tit-bit" he was in the habit of devouring the young crocodiles. During our visit, this enormous brute was asleep on the banks of his dwelling-place, and seemed quite indifferent to our presence, although we came within a foot of him, and even attempted to arouse him by rubbing his nose with a leg of goatflesh which, however, a young one greedily seized and dived with under water. Out attendant tried in vain to excite their ferocity, but beyond a feeble attempt to snap their trenchant teeth, the animals showed no disposition to attack us.

Strangers are expected to stand treat, not only by the *fakirs* and natives, who gain a livelihood by hanging about the pond and wooing the monsters, but even the crocodiles themselves seem to anticipate a feast and on the arrival of a party come out in unusual numbers.

Our guide taking piece after piece of the flesh, dashed it on the bank, uttering a low growling sound, at which the whole tank became in motion and crocodiles of whose existence we had been before ignorant, splashed through the shallow water, struggling which should sieze the prize. The shores were literally covered with scaly monsters snapping their jaws at one another.

Crocodiles wallowing in the mud of the Nile, or garials in the Indus, are sights which one is prepared to encounter; but the traveller may wander far before he meets with a scene so strange and unexpected as that just described.

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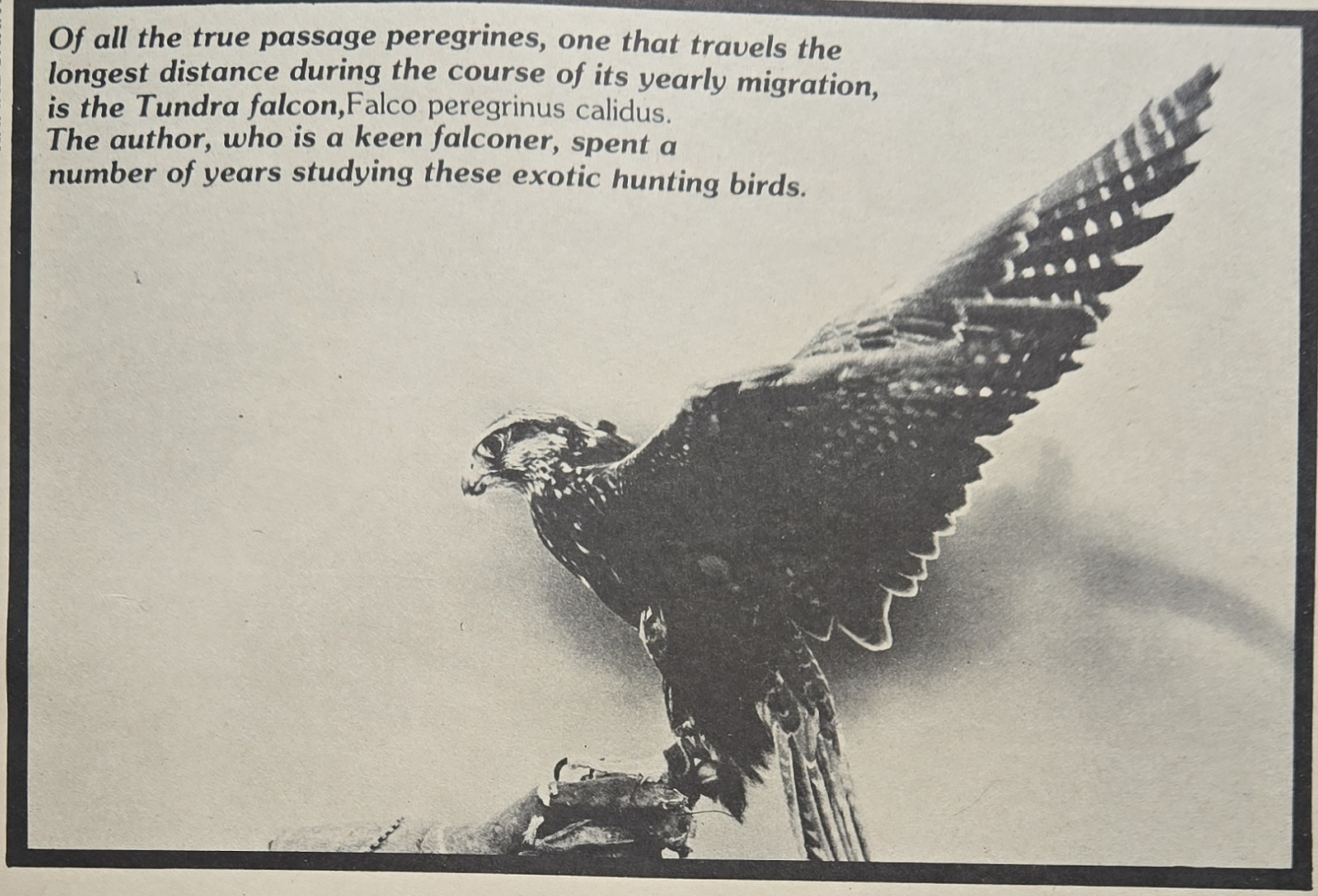
**Andrew Leith Adams MD**, came to India in 1849 from Britain and served as a surgeon with the 22nd regiment till 1855. This extract is from his book 'Wanderings Of A Naturalist', an account of his travels in an 'exotic land.'

KAMAL SAHAY

***Of all the true passage peregrines, one that travels the longest distance during the course of its yearly migration, is the Tundra falcon,*** Falco peregrinus calidus. ***The author, who is a keen falconer, spent a number of years studying these exotic hunting birds.***



# As Far As The Falcon Flies

**S.M. OSMAN**

One has only to listen to the voice of Taymur Mirza, that legendary Persian falconer whose name is still a household word in the falconry, to fully appreciate the qualities of this bird from a falconer's standpoint. In his book, he describes it as the yellowish almond coloured variety of the *Behri* or the peregrine falcon. Our famous chronicler unacquainted with our modern scientific terminology, simply calls this bird the *Rumali Shaheen* and continues, "I have trained these peregrines to hunt gazelle". Nevertheless he laments, "they are delicate birds, bold and daring; they dash themselves impetuously against the gazelle's horns and thus frequently injure themselves fatally."

Having studied these falcons in captivity, and also having watched, over a considerable period of time, wild *calidus* falcons, I am absolutely convinced that accidents of the nature described by our worthy Taymur Mirza cannot alone be attributed, to their daring impetuousity as he calls it, but mainly to the style and tactics adopted by these birds when hunting game.

We had a large immature female *calidus* peregrine and out on the hunting field, time without number I have watched spellbound the vertical dives made by her when pursuing game. As soon as we had indication of small game (partridges) in the area we were quartering, the falcon would be unhooded and cast off the fist. She would immediately rise straight up to a height of three to four hundred feet and would maintain that ceiling not by glide soaring as is usually the practice with other peregrine's but by racing back and forth above our heads till we got to flushing the quarry out of cover. She would then be seen descending in an almost vertical power dive on to the illfated target. I was never tired of watching this fantastic performance by her. There was hardly any question of pursuing game for it was always a bolt from the blue leaving little if any chance at all for the hunted to escape. As you may have guessed, there did occur on several occasions some nasty accidents. I remember a time when a recalcitrant stone curlew refused to be flushed but would merely streak out on foot from the sanctuary of one lot of bushes to the next. Ultimately the peregrine tired of following its

movements from up above and waiting for it to take wing, and so the next time the curlew raced from under one lot of brambles the falcon made a dive for it. When just about to be smitten by the pregrine, the curlew gingerly side stepped and the falcon landed at full force on the dry sandy river bed. It was only then that the wily curlew flew, leaving behind a dazed and much shaken falcon. The impact was so forceful that the falcon after it had been collected from the ground just sat groggily on the fist for a long time. An adult female *calidus* falcon will normally run upto one pound and fifteen ounces in weight when directly taken from the trapper's net.

Since these falcons are not very much disposed to soaring and 'waiting on', as the term goes, for any substantial length of time, one method to hold them in check, and from wandering and leaving the falconer, when they are flown or exercised, is to keep calling them constantly so that they keep lurking not far from the falconer, and also to intermittently swing the lure. If good sport is to be expected it will be imperative to have the falcon up for no longer than a few minutes at a time only. In the meanwhile the falconer or his assistant should be able to flush game from cover.

From all this it becomes clear as to why Taymur Mirza's falcons generally got pinned on gazelles' horns when out hunting this small antelope. Nevertheless wonderful and successful flights may still be had at owls, kites, plover, partridges, cranes, magpies and some other birds as well. This falcon is a specialist of the first order and all that is required is the falconer's cooperation. Foremost point of great significance in the matter of flights is to have the quarry, as far as possible, directly below the falcon at the moment of it being flushed out of cover. Alternately flights may be obtained when the falcon is cast from the fist at game. In such flights both hunter and hunted mount the sky in a series of what to the observer appears to be never ending spirals, till the falcon manages to gain higher elevation, rising well above the quarry. From then on spectacular series of stoops, all in quick succession, mark the beginning of the end for the illfated prey. In these mid-air strikes is clearly seen the vertical nature of plunging dives which generally is absent in other types of peregrine attack strategy.

In 1955 when I was doing land reclamation work not far from Satyanarian temple, on the Haridwar-Rishikesh road, I watched for over three weeks at a stretch, and in detail, the activities of a female, immature *calidus* falcon. During that period I had with me a trained adult *peregrinus peregrinus* falcon. Very close to my place to work there existed open country of a sort where hunting with a falcon was possible, I would be flying my peregrine at plover, partridges, stone curlew and

at times just for the fun of it, at paddy birds, or the lesser kind of cranes, which generally go by the name of Herons. One day as my peregrine waited on high overhead, in anticipation of my flushing some game out of cover for her to dive and capture, there appeared out of the blue, this wild female *calidus* peregrine falcon. I was first made aware of the wild peregrine's presence by her harsh grating screeches as she started an aerial battle with my trained falcon.

Immediately I called back my peregrine which luckily disengaged from the action and stooped to the lure. Having secured my bird I looked up and watched with satisfaction the wild peregrine swing to perch on the dried limb of a giant tree standing on the bank of the Song river. The place where this happened just below the railway bridge over the Song river on the Raiwalla-Rishikesh link line. It also happened to be just a convenient half mile from the spot where I was camped at the time. From the day onwards and for almost three weeks later, the dead tree and the falcon on the river Song, remained objects of careful observation for me.

I was not at all very keen to catch this falcon at the time for I had a good trained peregrine to while away my spare hours, and yet the urge to capture this beautiful bird, and hold her in my hands even for a little while, for I definitely would not be able to hold her and train her as I had a lot of other work to do, besides keeping two falcons at the same time is not joke, tempted me to attempt its capture inspite of my better judgement. My untiring efforts as I had reckoned, were of no avail. The falcon stubbornly refused to come to the net which I first baited with a blue rock pigeon and later with a shrike I had got. I even tried with a tame patridge to entice her to fly down to the net, but nothing worked.
I usually got to the perch site at the crack of dawn and as often as not would find the peregrine busy on some kill or the other which she had brought to the perch prior to my appearance on the scene. Mostly it would be small water birds such as snipe, Kingfishers etc. With the meal over it would naturally be meaningless to expect the falcon to show interest in whatever bait I was to put out for her behind my trap. On several occasions when the peregrine had not thrown up her cast till the time of my arrival on the site, I would patiently set up my net hoping she may fly to it once the cast had been thrown by her. Let me explain that a feather cast which is thrown out by all birds of prey is a ball of undigested feathers that the predator had swallowed in the course of its last meal. This pellet of feathers is disgorged by birds of prey just before sunrise every day.

And on such rare occasions I would wait with hopeful expectation, praying and watching, and feeling miserably cold inside for it would be just about sunrise on a cold winter's morning. I would wait only to see the peregrine fly off the perch after she had thrown her cast of feathers, and watch her go away into the distance rising higher, continuously gaining height. The falcon I notice would always be flying away from the sun, that is towards the west. I think this was done intentionally, as at such times when the falcon was seeking prey, had it been flying to the east, the sun directly in its eyes would have interfered with its spotting capability. Here the Song river flows in an east-west axis so the falcon would be coursing over the river bed all the time. Looking away from the sun gave me a better chance to follow her movements for a longer distance, but had she flown to the east squinting against the sun would have made it a blinding job to observe her progress.

It was most interesting to watch her manner of working, for she acted quite unlike other peregrines. Once the falcon had attained a certain height she would simply continue to fly upriver for some distance by when the movement of some bird or the other directly below would attract her attention, invariably resulting in an almost vertical dive that would end in a certain kill. Immediately the falcon would triumphantly fly back to its perch on the river bed with the prey securely held in her claws. On the return trip to the perch the peregrine would fly back just a few meters above ground level to shoot up to the perch when she got almost directly below the tree. She would settle half way up on a thick limb. Once comfortably perched she would start feathering the dead bird she had brought, and would shortly start eating it. A few crows would hang around in the vicinity, though strangely enough I never saw an eagle disturb her. In an area thickly infested with hawk-eagles, this struck me as odd. Once the meal over she would start preening her feathers. This would be the signal for me to leave for by now it would be almost eight in the moring, and time for my breakfast.

Twice I followed the peregrine as she flew into the distance, and on both occasions I surprised her at her ablutions. She would alight at some spot almost midway between the perch location and the confluence of the Son river with the Ganga. At this spot, waters of the Son river had spread out over an immense area almost half a mile wide. There was a network of tributaries with the waters running only a few inches deep in some of the channels. Here and there lay scattered all over huge trunks of drift wood. It was a picturesque spot. Here, and in such beautiful surroundings (beautiful in those days) the peregrine would be seen taking a bath. Bath over she would gingerly skip out of the shallow pool of water to perch on to some driftwood limb as it lay half buried in the river sands. Firmly gripping the perch in her claws, she would vigorously begin to flap her wings sending a fine spray of water scattering all around. After a few moments of this exercise she would stop flapping her wings to shift up and down the limb of the tree, every now and again turning and reversing her position as though she was about to selct a spot to settle down for a photograph. With wings fanned out she would thus remain sitting for about twenty minutes when she

would start preening her feathers. Through my binoculars I could easily see her feathers gradually drying in the sun. In a little while, a wet patch only would remain below her crop and she would at this stage fly off the driftwood perch. She never went to the dead tree by the railway bridge but would begin to soar till she became a mere speck floating against the velvet blue of the sky. A couple of times I caught her playfully making passes at kites but very soon, because of the colossal height she had gained she would disappear from my sight.

Her activities from then on till about four thirty in the evening, remained obscure. What she did or where she went was never known to me; however I would catch her surreptiously returning to her morning perch, the dead tree on the Song river, round about 4.30 and there she would remain till a few minutes before sunset.

The falcon would by now be scouring over the open area above, and directly over the river bed at a point where the parakeets crossed to fly into the sal forest which stood on the

***Bedi teaches Shergill how to handle a nervous and excited gosshawk with a leash and gloves.***

# The Last Great Falconer

**Tony Jesudasan** *and* **Rajesh Bedi**
*meet a living legend.*

The place, New Delhi. The year 1981. Through the concrete nightmare of Defence Colony, complete with teenagers sporting their noveauriche denim sexuality and with big bellied matrons who have forgotten what hunger is; Rajesh Bedi and I wind our way in his Matador to C-490 where we are told the last great falconer lives, nursing his memories, surrounded by dreams of what it could be like again—to go out to the Himalyas and ensnare falcons and train them to bend to man's will. *Brigadier Sahib Hai?* I ask the dark, stringy haired servant girl, squatting on all fours, swabbing the porch floor. Bedi is still getting his camera gear out of the van and locking it. *Naha Rahe Hain* she grunts and then proceeds to ignore us. *Brigadier Saib Hai?* asks a voice behind me and I turn to face a slim, fair, youth, his crisp moustache and full brushed tousure emanting his energy and sense of purpose. "He's bathing" I grunt as Bedi joins us. "Have you come to meet him too?" I ask the young man who has a cloth shopping bag slung over his shoulders—the kind of bag my mother used to send me out to the market with when I was a kid. "Come in, come in" says a voice and we enter the living room to confront Brigadier Man Mohan Singh Bedi, grandson of Raja Sir Gurbax Singh Bedi of Kallar near Rawalpindi. "You are now in the presence of a living legend—the greatest falconer of North India" the young man with the bag solemnly informs Bedi and me. He introduces himself as Shergil, reaches into his bag and pulls out a shrilly screaming hawk, grimacing with pain as its sharp talons sink into the flesh of his wrist. Bedi and I are speechless.

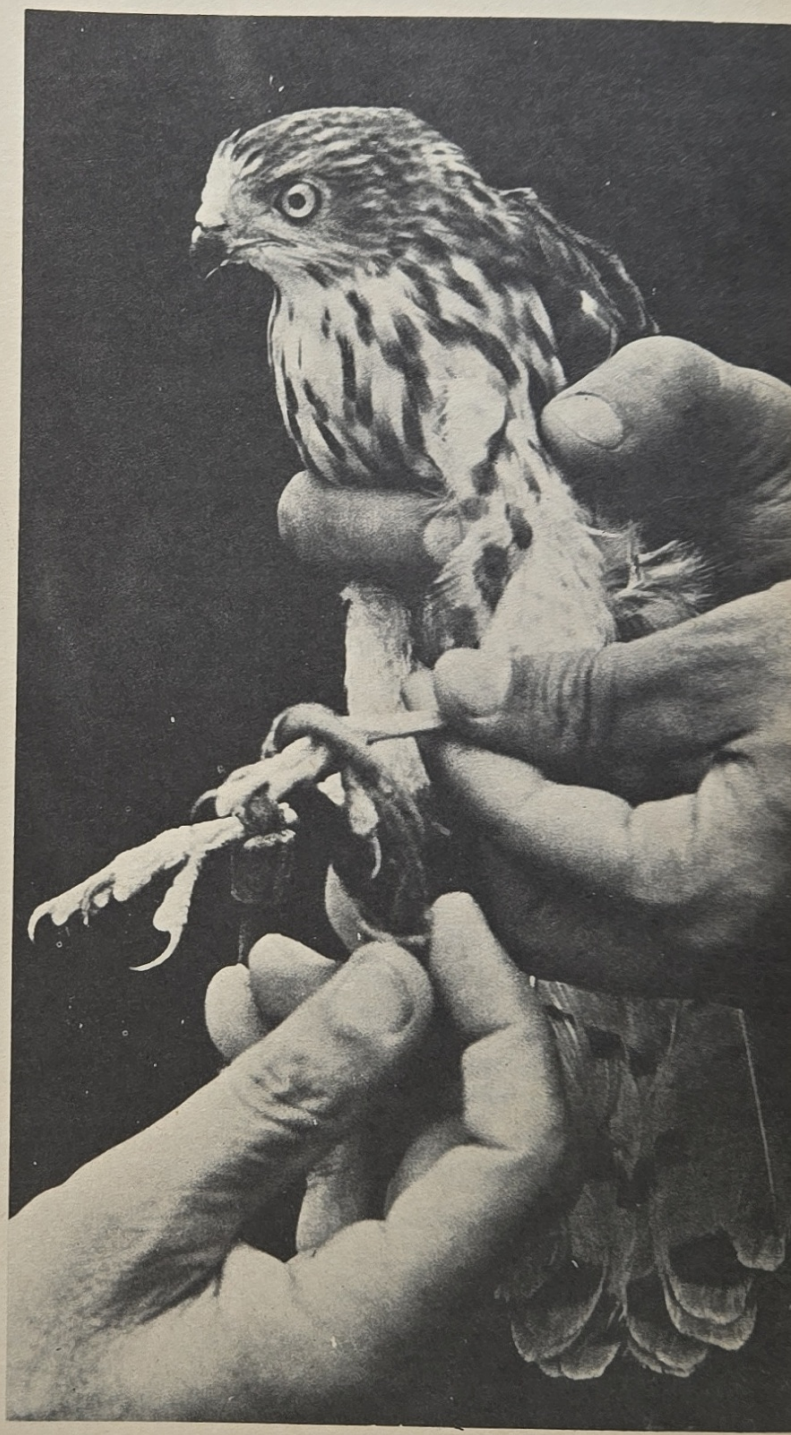
We sit silently as the old man looking incredibly regal in a dressing gown through which we could see patches of

right bank of the Song river. Ultimately she would find one flock just below her winging its way to the roost. And then in that classical vertical dive of her's she would come down in the middle of the flock to grab a parrot and carry the protesting bird to her perch. Holding the illfated victim's neck in the barb of her beak, with one simple twist of her head the falcon would despatch its prey. This job is carried out by the entire falcon tribe very efficiently and in a most businesslike manner.

No time was lost in feathering the dead bird, and immediately afterwards she would settle down to tearing and devouring bits of the prey. It would be almost dark by the time the falcon finished her meal, and flew to roost in the same sal forest where the parakeets had preceeded her. This then was the pattern that each day repeated itself in the peregrine's activities from dawn to dusk. This peregrine on the river Song thus held me in thrall, like a talisman for nearly three weeks, till one fine morning she vanished from my life to fly to hunting grounds further south. ■

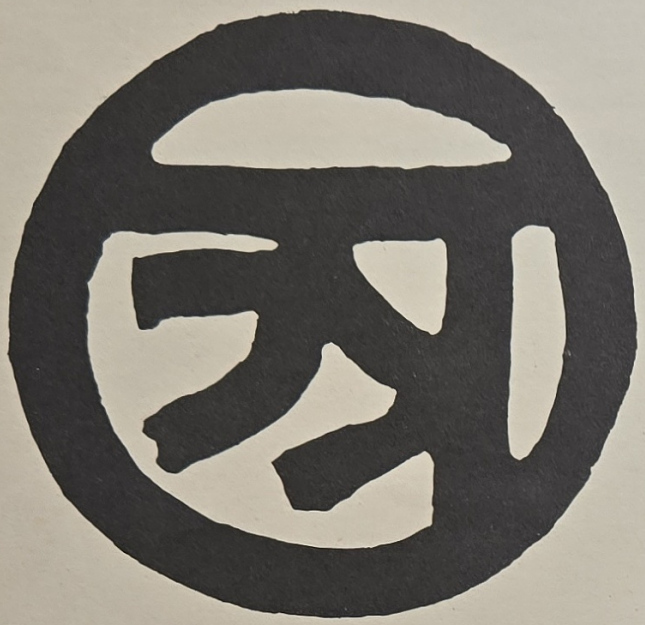
chest hair, proceeded to instruct Shergill in the art of falconry, how to hold the bird, how to get it to release its talons from human flesh when it is nervous and excited, how to tie jessops on its feet, how to control it with a leash. As he instructs, he politely answers my questions while Bedi jumps up and down the room, clicking away. "Falconry has been the hobby of my ancestors", he says, "I caught and trained my first falcon at the age of eleven. I remember as a child that my grand-father had 27 hawks and a servant for each hawk. My Guru's name is Baba Surinder Singh Bedi. He's still alive and lives in Jullundur. Unfortunately he's lost the faculty of speech." Bedi persuades the Brigadier and Shergill to move out to the garden for more pictures. We move out of the living room. The Brigadier is still in his dressing gown but his regality is unique. If you saw him walking down Connaught Place with a falcon perched on his wrist with a retinue behind him, you wouldn't think it odd. I wouldn't. "At one time in 1942, there were more than 1000 falconer families in North India, mostly in Pakistan. I remember travelling on the G.T. Road from Lahore to Rawalpindi that year and hearing hawks and falcons being called by some of these families and I could name each family just by hearing their call—whether it was the Hiwana family, or the Bedi family or the Doar family." The old man is quiet, lost in his memories. Shergill hovers around nervously. He is truly smitten in the presence of a master. To some extent so are Bedi and me. The Brigadier comes out of his reveries and produces canvas bag with the word 'hawking' stencilled on it. The bag has seen many decades of use. He pulls out jessops, a leather leash, eye patches with his initials on them. "This October", he murmurs to himself, "This October, I think I'll go to the mountains and catch me a few hawks and train them. Would you like to come? Will you?" I nod and am embarrassed at the lie. This October I know I"ll still be in Delhi, mechanically living each moment, going to office, coming back, waking up each morning to the same city environment bereft of mountains and blue skies and the lighting plummet of a hawk as it hunts on the Brigadier's instructions.

Bedi's bag is packed. We say goodbye leaving the old man to get on to more serious business—that of passing on the dying art of falconry to a young man who unlike us knows why it is necessary to keep the tradition alive. As we leave, I look back. "Perhaps old man, perhaps", "I think, "in October I might join you after all."



***Tying jessops on the gosshawk.***

# Creators of Fashion



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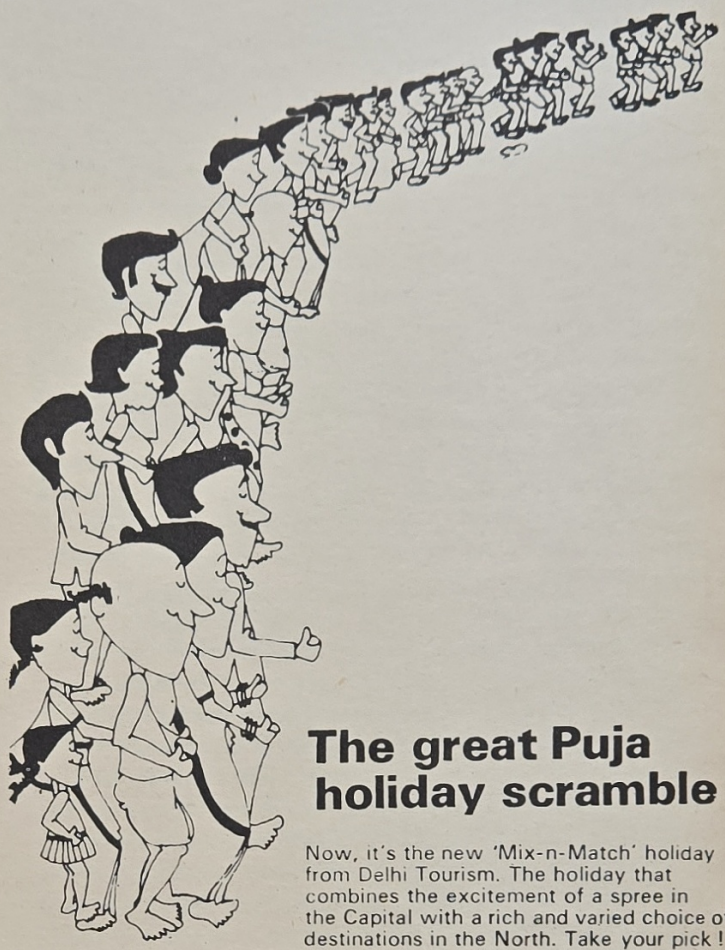

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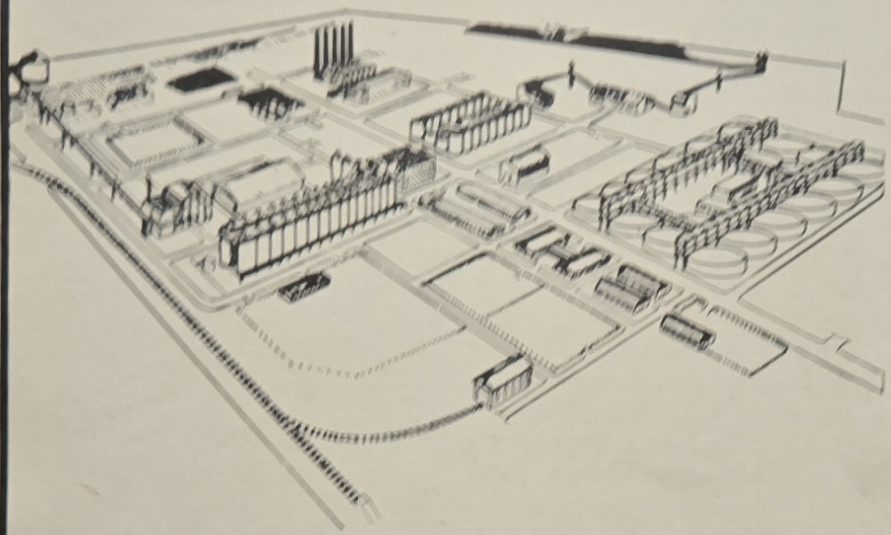

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Newfields

# Rafi's Song

It was evening at the Annamalai Sanctuary in TamilNadu. As the setting sun cast its last shadows, Khan, a forest guard, was taking his cattle home after a days grazing in the woods adjacent to the park.

To his surprise, there was a new-born calf tagging along. None of his cows had been pregnant, however, and on closer inspection he found that it was a day-or-two-old gaur calf. A male, with the tell tale blue eyes and golden-brown coat, its umblical chord was still dangling.

Khan named the calf Rafi, fixed a bottle with a siphon and began feeding it cow's milk. Rafi quickly accepted this arrangement and began responding to his name. On the eleventh day the umblical chord fell off.

When he arrived in October, Rafi stood 72 cms., tall. By December he had grown to 100 cms. His dorsal ridge, formed by the extension of a few vertebrae, was already distinctly showing. And the white stockings, a characteristic of adult gaurs but absent in infants, were also coming on.

By the time he is full grown, Rafi will change into a dark brown in colour, stand six feet tall and weigh almost a ton. Already he is quite uncontrollable, and Khan is looking for a permanent home for him elsewhere.

The range of the Gaur or Indian Bison extends upto Assam and beyond, covering Burma, Malaysia and the Philippines. Gaur herds and domestic cattle often share the same pastures and this at times leads to cross-breeding. In Nagaland and Arunachal Pradesh this has resulted in a hybrid called the mithun which plays an important role in the rituals and economy of the people there.

Thus TamilNadu gaurs were plentiful in the forests of the Palni, the Nilgiris, the Shevroys and the Javadhi hills. But trophy-hunting by poachers, decimation by diseases like Rinderpest and destruction of the forests where the beasts had survived for eons have steeply reduced their numbers. An isolated population survived in the Annamalai sanctuary where, due to strict protection afforded in recent years, this magnificent animal is staging a come-back. One can spot gaurs within a furlong of the forest settlement at Topslip.

Calves are born in all seasons. In Annamalai, herds with calves and sub-adults of varied sizes are often observed. For some reason the cow separates from the herd when the calf is born and remains aloof for a few days. Within 20 minutes of its birth, the calf is already able to run. Often the cow lets the baby rest and strays away, grazing, sometimes as far away as a few hundred yards. George Schaller the noted anthropologist has recorded an instance when a mother was away from its calf for 70 minutes. It was probably on one such occasion that Rafi got separated from his mother and started following the domestic cattle.

Recently, Schaller has spent a considerable amount of time studying the ungulates of India. And his observations of Gaur at the Kanha national park in north central India have added greatly to our knowledge of this animal.

A full grown Gaur possesses a characteristic predominance of its dorsal ridge, caused by the extension of its vertebrae, which gives it a powerful look. Incidentally the gaur is the only one of the ungulates the tiger is wary of attacking, though new born calves do fall prey to it. Also prominent on the adult male gaur are the characteristic dewlaps, which on a healthy adult look like folds of satin. Cows and brown bulls—for the blackish pelage occurs only among adults—are much smaller. The horns of young adult and mature bulls also vary, those of the latter being smooth, yellow orange in colour and tipped with black, while those of the latter are corrugated, a dull olive colour, and sometimes frayed

at the tips.

Gaur predominate in hilly areas and are therefore found in the major highland systems of India. The animal prefers large, relatively undisturbed forest tracts in hilly terrain below an altitude of five to six thousand feet. The existence of a good supply of water is of great importance, as is, of course, an abundance of forage. A diet of coarse grasses makes up the majority of the gaur's diet, but green grasses are indulged in when available, as also certain

shrubs and trees.

Diseases of domestic cattle take their toll of the gaur and predators also keep their numbers down. Infestations of foot and mouth disease, Antrax and Rinderpest have decimated populations in the past. Normally the greatest mortality seems to occur among young calves, with predation by tigers being one of the main causes. But once a gaur reaches maturity, it has few natural foes, and has good chance of a long life.

The Gaur is an animal of thick forest. It generally moves into the meadows only in the hot season in search of salt licks and browse. By the time the sun has reached a respectable position in the sky in the early morning the gaur herd winds its way into the forest cover to rest after a nights activity. In its search for food the gaur is aided by its prehensile tongue that can curl around and pull towards it any forbs within reach.

When a herd rests or is grazing, there is usually one animal that performs the duties of a sentinel, with its head raised above the level of its hump in an alert posture. And when a herd is being led away from one location to another, the leading animal usually seems to be on duty looking for danger. The gaur possesses an extremely keen sense of smell. A sentinel animal, if it senses any disturbance, it usually faces the source of the same, emitting noises which obviously vary in their warning from soft snorts, for nothing too unusual, to a loud warning call, followed by a thumping retreat. This thumping, due to an exaggerated landing on the ground by the front legs, makes a noise that must caution the others to follow at full speed.

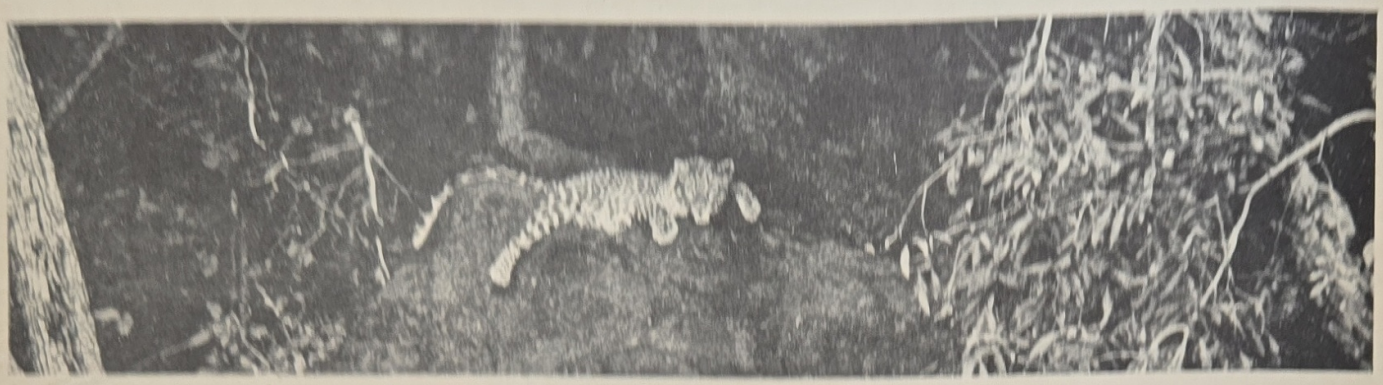
The size of herds varies according to location. Generally black adult bulls seem twice as abundant as brown (or young bulls), which must be an indication that once having gained adulthood they rarely succumb to any tigers, etc. The composition of the herd frequently changes, especially during the mating season. The true leader of a herd may be a male or a female. Some scientists suggest that the leadership of a gaur herd bears similarities with the leadership with an elephant herd.

Dominance is expressed in many ways during interactions between gaur, at salt licks, during rutting and at general social occassions. A threat gesture, where one animal walks directly at another with head lowered and jerking up and down with lateral sweeps of the horns is common. So too is a heads up display, which changes into a lowered head when approaching a rival. Accompanying these movements are usually a series of vocalisations that culminate in a loud bellow. Frequently saplings may be jabbed with the horns in a re-direction of aggression.

When showing signs of submission an animal could either start grazing or turn aside with its head and neck pointing to the ground, Gaurs also frequently engage in sparring. Here it is interesting to note that large black bulls spar less than immature bulls, but instead re-direct their aggression at inanimate things like bushes and trees. The most striking aggressive display is one where the head is lowered and back hunched and one animal stands paralled to another, till one of the animals gives way. This seems to be the principal means of ranking, and a substitute for fighting. Most assessments of dominance in gaur seem to be based on a visual appreciation of each others size.

The song of the gaur, which is a call comprised of a series of low to high notes, becomes prevalent during the rut. Generally a male gaur makes a visual and olfactory assessment of whether a female is undergoing estrus. During courting much licking is engaged in. This licking is also engaged in among males generally with a dominant male being licked by a less dominant one.

# Wildlife



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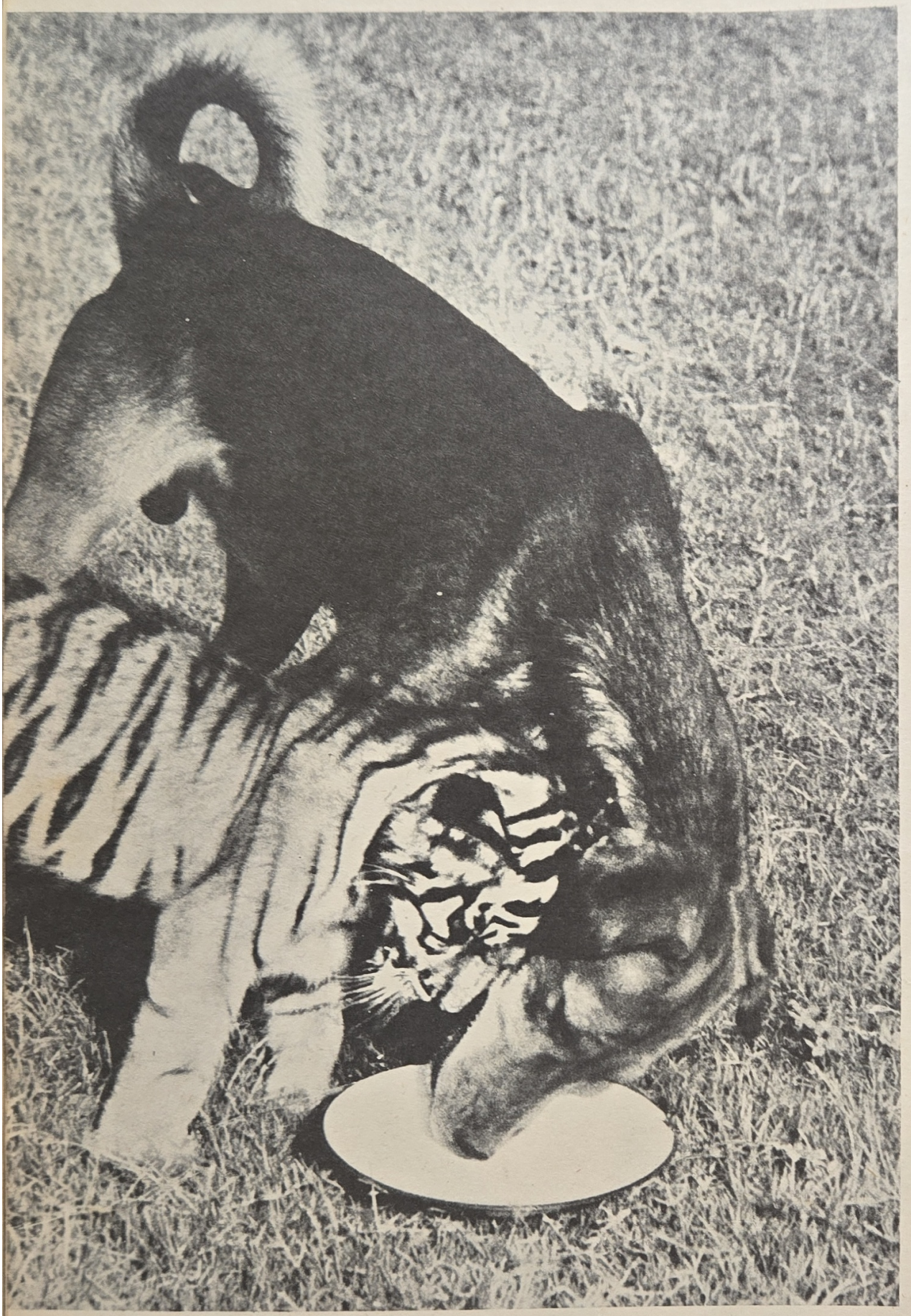
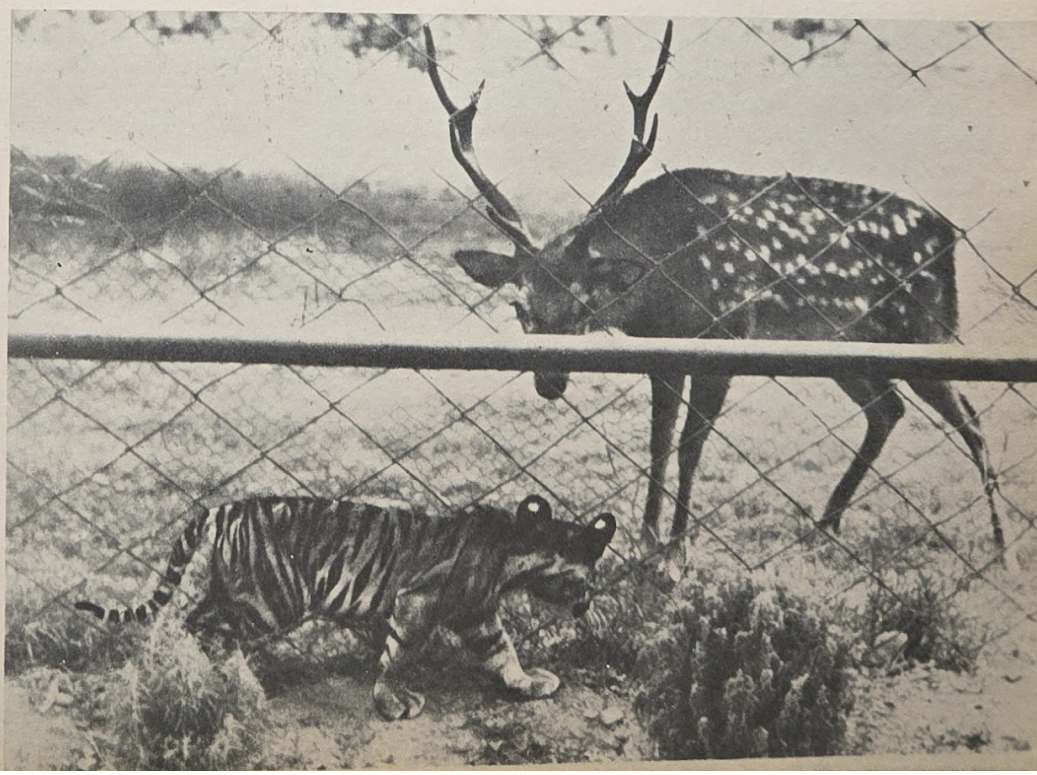
# The Little Tiger's Story

*"Elementary my dear Watson!" Little Tiger told his associate the cynical Mr. Dog about the stuffed head they discovered in the living room. "If he was alive he would'nt have that glassy look in his eyes".*



*When he was not sleuthing there was nothing little Tiger loved better to do than pester Mr. Dog to take the day off and spend the afternoons romping in the grass. On Sundays Little Tiger visited his friend Mr. Cheetal at the Delhi Zoo. "We just exchange notes and if the mood is right discuss the future of the world," he nonchalantly told the Wildlifer photographer who happened to be in on the meeting at the Zoo.*



# A Hymn to Birds

**BY MAN MOHAN SINGH**

As a bird watcher you do not need a very powerful pair of binoculars to look into the future of wild life particularly the birds. The age of extinction is coming. Nature was once depicted darkly as red in tooth and claw. It is now us the homo-sapiens who are on the killing spree. I believe that once we, as a form of life, were supposed to be heading for a nuclear catastrophe of self-annihilation. We have now changed the road to our doom. We will perhaps first finish the plant, the birds, the animal and insect life, and, then commit this biological harakiri on a desolate theatre of time. There would be no birds to sing our requiem, no willows to bow in grief, no antelopes to bend their antlers in half mast silence, and no crickets to chirp with our groans.

The question is no more the concern of poets alone. The facts portend this. We have gone out into space, yet there is little that we know about even the total number of species of plants, birds, insects, animals on our own planet. The estimate ranged as widely from five million to more than ten million. According to yet another estimate we have not so far check listed, identified and classified in terms of orders, families, species and sub-species even two million of these forms of biological existence.

It is believed that the first recorded animal extinction took place about two thousand years back when the European Lion vanished out of existence. During the last four centuries one animal or bird species or sub-species has vanished every five years. According to yet another estimate during the 20th century we have lost on an average one bird or animal species or sub-species each year. Little is yet known of the species of plants. Of the flowering plants alone more than 25,000 of the species are known to be endangered. The list of the rare and endangered species of birds and animals has now crossed the figure of one thousand. How did, in the last two thousand years, more than 80 species of birds perish? How could man wipe out a magnificent bird like the Passenger Pigeon who roamed the vast skies in flights that were more like clouds of millions?

We feel elated in calling this progress. Whether we murder a tree, a bird or an animal, the world is the poorer. We have to remember that nature is inexorable and that it can, when tinkered day in an day out, eventually hit back. Take the case of Chinese extermination of the sparrow. The sparrow used to feed on a mixed diet of insects and grain. After it was totally exterminated, insects increased, thereby posing a graver danger to the crops. Now I believe that they are propagating the species again. The same thing could happen to the parakeets.While admittedlyit is quite a pest to foodgrain, it would be senseless to wipe it out as a species. It is a beautiful presence even if it is a pest. Who knows that the gap would be filled up by yet another and even more dangerous species as nature abhors vacuum? The number of parakeets could be contained not that the species should be wiped out. Perhaps, mass extermination of a species is even more, dangerous than the genocide of people.

Why are some birds, beautiful as they are, pests too. There is in nature a very intricate balance. In a given space there would be just the right number of insects, the right number of animals and the right number of birds: not an animal less, not a bird less, not a insect less than it should be. In the good old days the road builders, the explorers,the colonisers had a very rational view of forest plantation and trees. While they colonised, they somehow respected the principle of harmony and peaceful co-existence in environment. I believe that they had a total view of the habitat concept. Our concept of the habitat or the living environment is pitiably dominated by human requirements in which no other species of life has any meaning. This superficial view of things is in fact dangerous.

The parakeets are probably a pest because they have nowhere else to go. We have cut down fruit-bearing trees like the pipal, jamun, bunyan and instead planted euclyptus trees which yield neither fruit nor flower nor shade and in fact positively repel the birds by their pungent smell. Where should the poor birds go? I am certain that with more fruit trees like the bunyan and jamun around, many birds would prefer to leave out the grain crops.

**We have now come to a point of no return. We may hold a hundred conventions on the environment, yet we have destroyed a part of human heritage which cannot be redeemed. Only if we had listened to the voice of the poets. Only if we had heeded the warnings that they had given.**

One of the most wonderful phenomenon of nature is the migration of birds. How they do it would perhaps be the most fascinating part of ornithology. There are birds like the geese who have reportedly flown directly above Mount Everest at an incredible height of 32,000 feet above sea level and probably in the process of their gliding they even keep sleeping and obviously do not need any artifical oxygen for respiration. It has been discovered that by the presence of certain cells in their brains, the migratory birds are able to navigate by the movement of the stars, the direction of the waves, the moisture in the atmosphere, and the velocity of the winds. With these inputs, they are able to chart out or in fact investigate their way back home as also the far flung areas to which they migrate. I do not think that any human computer can process such a tiny little cell embedded in the brains of birds.

Most Indian birds do not have a name in local dialect. It is a pity that many of these birds may ultimately become extinct, unknown, unsung and unnamed. In fact we may at least give them a name and the local societies could help coin a name and popularise these. I would not be surprised that in doing this work of finding names, we may at least be helping in raising consciousness on the threat to extinction of some of these species.

Why birds? What are they to the human environment? These questions need not be answered any longer. For scientific interest in their relevance to our environment has made significant strides. They are not merely vermins or pests. In visual images of enviable gallantry small flocks of starlings have sometimes turned back swarms of locusts. Even the Egyptian pharaohs had respect for the role of these birds. One of them had even prescribed capital punishment for killing egrets and their subspecies, as these birds fed on insects that were a pest to the cotton crop. But for the predators like the owls and the falcons, we will not be able to keep rat population under check. The kites and vultures are sometimes despised as they collide with air-crafts. Yet as natures great scavengers, they help us live in a clean environment. The birds not only carry messages of forlorn lovers, they also perform their role in the fertilization of flowers and the dispersal of seeds. If one day we were to create a birdless world, the end of human beings would not be far off as the insects and reptiles would soon take over.

No wonder that St. Francis of Assissi did "A Hymn to Birds". No wonder when Gautam Budha got his enlightenment, the birds first announced it. In Edwin Arnold's "The Light of Asia" the anthem of enlightenment was sung by the Koel, the painted Thrush, the Starling and the Sunbird.

Perched precariously as we are today on the brink of ecocide, we need yet another enlightenment. If it comes, the birds would surely sing the greatest symphony ever. They would call it a "A Hymn to Man's Wisdom".

---

**Man Mohan Singh,** ***is a member of the Indian Administrative Service. He has specialised on the birds of the Punjab region and is at present writing a book under the guidance of Dr Salim Ali.***

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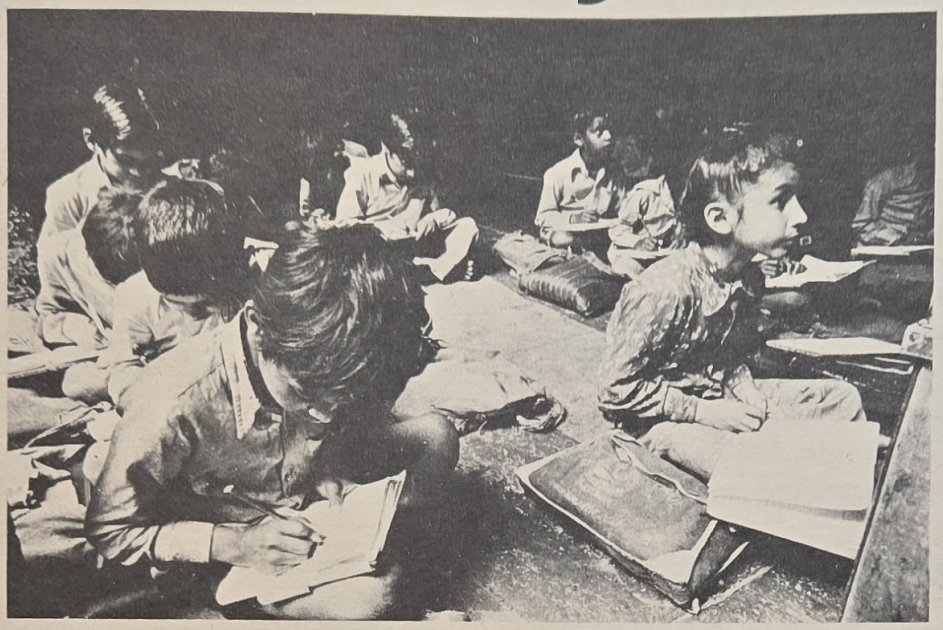

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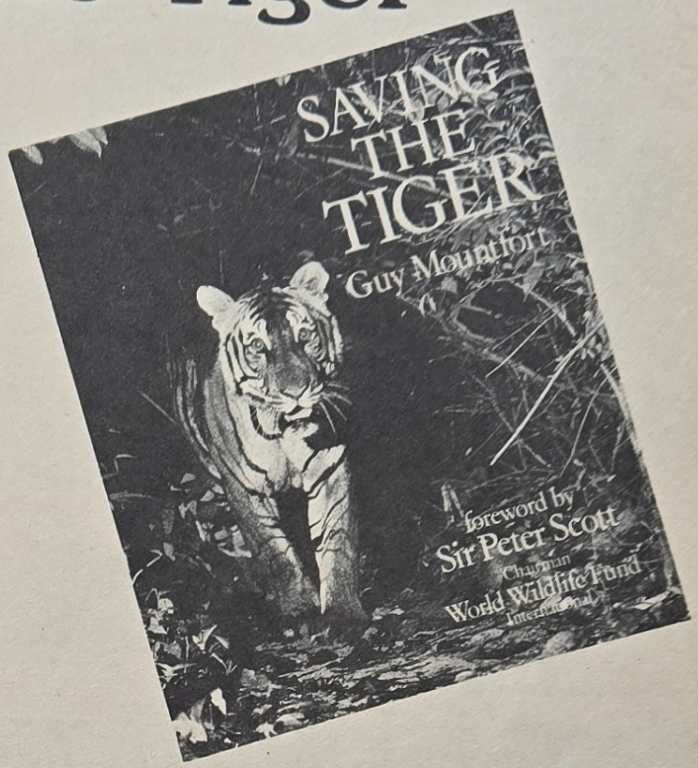
# Saving The Tiger

**Saving the Tiger** *by* **Guy Mountfort,** *with a foreword by Sir Peter Scott Publishers: Michael Joseph, London, 1981 Price: Rs 195.00*
*India Distributor: Roli Books International*




Lavishly produced, with "the fullest pictorial documentation of tigers ever assembled in a book", **Saving the Tiger** is first and foremost a visual delight. As such it could take a proud place on any coffee table. Its value is only enhanced, however, by **Guy Mountfort's** concise and highly readable text, sure to be enjoyed by both the armchair conservationist and the serious student of the tiger.

Between these covers is chronicled a success story, that of the tiger's rescue from the brink of extinction. And very generously interspersed with it lies some of the best examples of the wildlife photographer's art. From a lyrical view of Chitwan National Park in Nepal to powerful shots of the big cats hunting, mating, feeding, playing....we experience the next best thing to being there.

Mountfort's credentials are impeccable. One of the founder members of the World Wildlife Fund, and an author of many successful books on wildlife he was also the instigator of the worldwide campaign to save the tiger. This book deals with experiences gained in ten years trying to do just that.

In his foreword to the book Sir Peter Scott, president of the World Wildlife Fund says that Operation Tiger "was born with its eyes open and already running. It never looked back". If its success is sustained, future generations will be able to take pride in sharing the earth with one of the most magnificent creatures on it.

Much of the ground work involved in saving the tiger began in the government halls of various Asian nations. To Mountfort, it was singularly encouraging that ". . .. impoverished Third World countries should be eager to contribute so substantially to save what they regarded as their national heritage".

And India took the initiative, for which we Indian can take some some pride—without lessening our efforts, for much more needs to be done. Mountfort also relates that he was stunned when he approached Mrs Gandhi by the speed of her decision made on the spot to appoint a Tiger task Force that would report to her personally. Who said everything here works at a bureaucratic pace?

The question has always been asked: Why save this potentially dangerous carnivore that is prone to kill cattle and even man? And here it is answered in some detail, because "....until we understand the full consequences of man's destruction of the natural world we shall continue , through ignorance or inertia, our present headlong course towards the eventual breakdown of our biological life-support system. Whether we realise it or not, the tiger is a part of the intricate web of life on earth, on the maintenance of which our own survival depends".

The tiger will not be saved in a vacuum. To save the tiger a host of related actions must be taken. Most important, it is man, as the dominant animal on this globe, who will ultimately benefit. The calculation is simple: to save the tiger we must save its environment. With a better environment the quality of our own lives improves. Slashing and burning for short term gains must stop, we must think of future generations.

A pleasant outcome of the battle for the tiger's conservation is that many other plants and animals that are lower down on the ecological pyramid have also been saved. Rare plants that maintain their niches in the tiger's habitat are still extant The population of ungulates that prey on domestic crops will be kept down by a healthy tiger population. Many a farmer must be ruing the day the last tiger left his area,for with the tiger's departure the depredations of exploding population of the tiger's prey (deer & pig) knew no bounds.

Besides the moral wrong inherent in letting a beautiful animal become extinct, the loss of a living creature to future generations can be looked at another way. We who save man made things in museums could probably produce more of them if they were destroyed. But if the living tiger goes into the emptiness of extinction, not all our art or science will bring it back.

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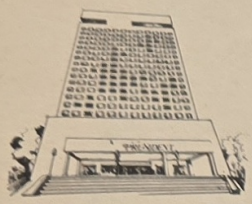

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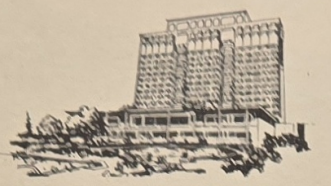

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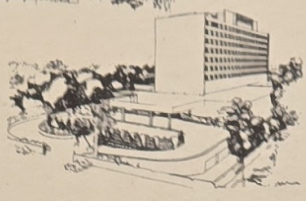

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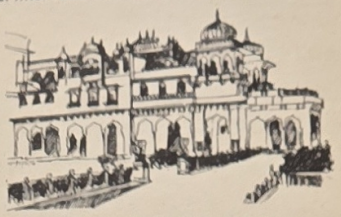

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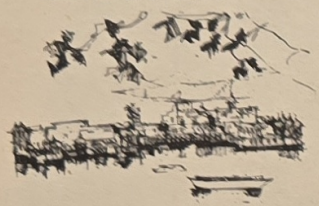

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# Reflections of a 'Mou

TEXT BY JEFFERY CAMPBELL,
PHOTOS BY RAJESH BEDI

*Ladakh is for those who love the wide windy places of the earth, where the world is unchanged and nature is free. A good network of trails used over the years as trade routes between villages and kingdoms makes trekking irresistable.*

The best way to absorb the surroundings and to begin appreciating the subtleties of any new environment is to walk in it; observing, smelling and feeling first hand the incredible diversity it has to offer. In the high altitude semi-desert bio-type of Ladakh this is especially true, for the barren desolation serves up a delicate series of unexpected treats to those who walk and watch.

Through rock strewn plains which seem at first totally devoid of life flit Cabbage Whites and Lime butterflies, whose frisky, unstable-seeming flight breaks up the motionless world as they soak up light. Brilliant blue Primulas flash like clusters of turquoise between boulders of granite gneiss. Occasionally if one looks closely, the rocks themselves are encrusted with rough garnets worn by the years into round lumps—petrified plums. And when you least expect to see it a little furry Royle's Vole pops out of the ground and scurries away, surprised to see a pair of booted feet so close to his underworld gateway.

There are many good treks that cross the major Trans—Himalayan

***When there are no customers for the vegetables these Ladakhi women are selling, they spend their time profitably threading wool.***

# ntain Donkey'

***A small animal, the snow leopard is found only in Ladakh district though a few have been known to stray to the borders of Kashmir or Kishtwar. The snow leopard is today a protected animal in Jammu and Kashmir.***

mountain ranges, linking Leh the capital with Manali, Kishtwar or Kashmir. But one of the nicest is an eight day trek from Leh through the valley of the Markha River to the plains of Nimaling. The route passes through a section of the Zanskar mountain range which will fall within a larger area that has been proposed as the Hemis National Park.

I first did this trek in May when the Willow trees and poplars that dot the widely scattered villages and line the fertile streams, were still in new leaf. May is spring time and everything has a fresh quality, as if the air and earth had been purged by six cold winter months. People come out and work begins in the fields. The men in their long maroon *gunchas* and the women wearing colourful silk cloaks, turquoise necklaces and Ladakhi hats clear the fields before plowing and sowing wheat. As they work they sing and the combined chorus of the whole village at work brings an uncanny celestial harmony to the morning hours.

The trek begins from the Ladakh Sarai, a camp of domed Mongolian shelters. From here one can start right off walking. It is best to beat the shepherds to the high altitudes, as their presence drives the bigger mammals farther into the mountains.

The morning hours are delicious, cold, still but invariably clear and bright. The sun shining on the summit of Stock Kangri (6,000 m.) beckons the traveller up into the purple maze where ridges of metamorphised mud rock give way to mica schists veined with streaks of smoky quartz. Little Skylarks rise up from under the ploughmans feet and parachute down; disappearing as soon as they land amongst the odd shaped clumps of soil which they resemble. The first Irises are in bloom and their matchless azure hues bring delight to the eye. Pied Magpies, the squabllers of Ladakhi air space, flap out of a yellow Poplar plantation and sail across to the corner of a school house—their long tails balancing their black and white bodies. Competing with school children and musical donkeys they scold the world with their raucous chattering. Pied Magpies build big oval nests, which are all but invisible in the middle of willow trees and later in the season when the fledgling are clamouring for food, it appears as if the trees themselves are in conversation.

The last house is passed and looking back one sees the Rani's palace silhouetted against the Indus valley—and a flight of Hill Pigeons flashes white across the amazing texture of the mountains. Spiky clumps of Creamy Prickly Pea in yellow flower grow here and there in the dusty earth as the trail winds up the rocky defile to the Stok La Pass.

But the greatest surprise awaited us in the fine sand at the pass. There along the top of the ridge, as clear as any I had ever seen in the Terai, were a series of leopard pug marks. I knew it could only be a Snow Leopard. The clarity of the impressions in the dry sand on the wind swept pass gave me a momentary shock and I jerked up, imagining the magnificent animal breathing down on my neck. As far as the eye could see,in every direction the incredible solitude of the landscape mocked by eager searching gaze.

Once over the Stok La I began to see Himalayan Marmots indulging in hilarious antics between boulders as they scrambled towards the nearest entrance to their catacombs. The Marmots, however, are in deadly earnest; screeching to each other from the tops of rocks at any approach of humans. For with humans are dogs and the Bhutiya mastiffs owned by Ladakhi shepherds love nothing better than a marmot hunt, so the big rodents are wise to be cautious.

Perhaps because marmots are vegetarian, Buddhists believe they will become monks in their next life and that it is especially sinful to harm them. Namgyal, my Ladakhi friend, recounts an incident in his childhood when he had cornered a marmot under a rock and the little fellow put his paws together praying for salvation.

One descends from the Stok La into the valley of Rumbak and Urutse, two little villages boasting no more than

five houses in all. A few patches of arable land and a perennial stream make it as pretty a place for a village as any. Wild rose bushes with dark green foliage still bear dried and wrinkled rosehips waiting to be brushed off their thorny branches, and fall like drops of coagulated blood to the ground. A little Chiffchaff's 'swit-sweet' is often heard before the indistinct little warbler is seen flitting through the low branches of the bush and the ubiquitous Black Redstart seems to respond from an adjoining rock.

Later in the evening the Chukor come down to the fields to peck about in the stubble for grains of last years buckwheat. They are beautiful birds. In the twilight their plump round bodies seem to roll on wheels across steep slopes of rock scree. In the breeding season the males perform a fantastic display dance, fluffing up their feathers and running in wide circles around the females, chuckling, with their necks stretched forward and close to the ground. Ladakhis believe their meat has heat giving properties and are not averse to eating them upon occasions during the winter.

We crossed the next pass, the Ganda La, early on in the day in a gale of chilling wind and light snow. A pair of Red-billed Choughs quite unruffled by the weather, swooped back and forth over the pass folding their wings and shooting like black bullets into the blurry white void. Following their lead we went leaping down a long rock slide, descending out of the wind and sleet into sun shine and the Markha valley. A flight of Snow Pigeons circled the huge Juniper tree standing sentinel to the village of Skiu and a Jungle Crow croaked from a pile of dyed horns which are set up by a chorten to protect the people from the demonic forces of the wind.

The Markha valley, just three days from Leh, epitomises the wild beauty of Ladakh; tamed here and there by lush green patches of floral 'civilization' where village and river combine. After hours of walking along dusty river courses flanked by purple and orange layers of soft rock, crumpled sediments of the ancient Tethys Sea thrown up helter-skelter through millions of years of colossal

***Animals in the rugged Ladakh terrain have to adapt and survive to the demands of harsh and inclement weather.***

mountain building—one begins to feel insignificant. It was almost as if we were ants crawling along the spine of an old decayed carcass whose mighty ribs arched out to either side; petrified portraits of ancient reptilian power.

Rounding the bend and walking into a thick stand of Willows, Poplars, and Apricot trees still in pinky white blossoms, the contrast refreshes the soul. Indian Fritillaries flit from bush to tree displaying their black and yellow markings to advantage against the freshly sprouting grass. Common Rose Finches, Lesser Whitethroats, and Tickell's Leaf Warblers are frequently observed within these oases. Meanwhile the classically marked Rock Bunting, flairs its white tail feathers from a boulder in the fields.

Eurasian Hobbies nest high up in the Poplars. One of the pair stays with the loose bundle of twigs that is its nest while the other swoops down on a flock of twittering Gold-fronted Finches. In June I saw a Golden Oriole in these orchards—a flash of yellow against the sky.

As one ascends the valley through the villages of Markha and Handar one begins to sense an increasing wildness in the air. One trail from Markha to Zangla in the Zanskar valley carries on for three days in a landscape of total desolation where ponies find it hard to scrounge a meal. Yet somehow herds of Ibex thrive and cheerful Whitethroated Dippers dance beside the streams.

Not having seen many mammals other than the ubiquitous but remarkably silent Himalayan Marmots, I was thrilled to see the first Tibetan Hares. Much darker and greyer than the common Indian Hare the Tibetan sub-species seem bigger as well. In Ladakhi they are called *ri-bong* or 'mountain donkey' because of their long ears. Once exceedingly common, their numbers have been radically diminished due to poaching by the army and they now come down into the lower valley only during the winter months.

Passing the last bouquet of gentians we left the world of men and pressed forward to the plains of Nimaling. 'Nimaling' the very name has a ring like the evening call of the *ribza* (Tibetan Snow Cock) echoing from empty canyon walls. The Nimaling meadows present an unparalleled panorama. A series of apron-like shelves converge from either side of the valley giving the area a plateau like effect, which appears to owe its shape to a wide glacier coming down at one time from behind the pyramidal peak: Kangyurzi.

It was at Nimaling that I saw my first Tibetan Wolf. There are two colour variations in these shaggy wolves, one a dark grey-black (the typical wolf of the fairy tales) and the other a straw colour with streaks of brown and a bushy dark tail. The one I watched was light brown and appeared to be

***Photoeditor Bedi took this picture of the Eagle Owl***—*Bubo bubo*

about the size of a normal Bhutiya mastiff.

Accused of being notorious sheep killers, the wolves are much maligned by Ladakhi villagers who build round traps at the edge of their hamlets. These traps are rock pits measuring 15 ft. in diameter and 8 to 10 ft. in depth from the level of the ground. A false bottom of grass and willow branches is laid down to make it look less deep and a young goat is tethered to a stake in the centre. A hungry wolf passing what appears to be an easy meal, springs down into the pit and eats the goat. When he tries to leap out, cantilevered rocks around the opening make it impossible to find a purchase sending him sprawling back into the pit. Eventually he is stoned to death by the alerted villagers.

The wolf, like many large mammals living in the Himalayas is very little publicised. Few people are aware that the Lynx also roams the high mountains of Ladakh along with the Pallas' Cat, a peculiar looking cat with a large head, thick fur and a bushy ringed tail. Nor do people know of the *Kiang* (Tibetan Wild Ass) which runs in large herds on the plains of Rupshu and Changtang, or the highly threatened Tibetan antelope. The beautiful Ermine (Stoat) which has a lovely white coat in winter and the diminutive Mouse-Hare are also relatively unknown. It is a pity that more information regarding the life and habits of these animals is not available. The free loping stride of the Tibetan Wolf on the plains of Nimaling is an unforgettable vision of the wild.

***Ladakh. The nictitating membrane helps protect the eye.***

Lower down on the wide aprons of Meadowland that surround Mt. Kangyurizi, a more sedentary view of life seems to inspire small herds of grazing Bharal. As the sun rises, members of the herd lie down to rest, so that their only distinguishing features among the boulders are their characteristically curved horns. Bharal were recently studied in considerable detail by George Schaller who feels that they closely resemble the ancestral stock from which both sheep and goats descended.

A flight of Snow Finches and Horned Larks drops into sight against the lengthening shadows of the afternoon. Then in the evening, when the stars burn away the grey cloak of dusklight and the surrounding ridges draw night into a vivid bowl above, an incredible peace regains its hold over the chaotic world of man. In the lucidity of that twilight, fine and rareified, a diminutive 'mountain donkey' nibbles on leaves of saxifrage, deep in reflection.

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**JEFFREY CAMPBELL Schooled in India at Woodstock in Mussoorie and the American Embassy School in Delhi. Currently he works for Mountain Travel India. At 26, he is already an old Ladakh hand, having made several trips to the region and having spent much of his time studying the people and wildlife of this remote and incredibly beautiful part of India.**

# The Guardian of Kalighati

BY NIHAL MATHUR.

He stepped out of the forest in faded greens. His dark brown complexion, blood shot eyes, unkempt hair, bushy whiskers and a fierce and rugged look gave him the unmistakable appearance of a dacoit. But Bhanwar Singh far from being a dreaded outlaw, is the Head Forest Guard in the Sariska Tiger Reserve in Rajasthan. During his 34 years at Sariska he has acquired not only a first hand knowledge of the forest and its denizens but also come to cherish and understand the flora and fauna of the region intimately.

What brought Bhawnwar Singh, a Rajput from Jodhpur to Sariska? He muses for a moment and then answers quite matter-of-factly that he was a 'goonda' in his younger days with a daily routine of street scuffles and fist fights. Tired of such delinquency, he ran away to Jaipur at the age of 15. There he became a rickshaw puller; a job he did for four years and did not quite enjoy.

Then he got a break. A 'thakur' from his village brought him to Sariska and gave him a job of a 'chowkidar' at the Sariska Palace which belonged to the former ruler of Alwar. A gun was issued to him which he at once put to rather nefarious use. Defiantly, he shot a wild boar in the newly founded sanctuary of Sariska. This resulted in a row with the Range Officer and after all was said and done, the 'Ranger sahib' was sufficiently impressed with Bhanwar Singh and thought him fit to be on the right side of law. He offered Bhanwar Singh a 'pucca sarkari' job and so began his career in Sariska in 1957.

He worked as a Game Watcher, Tracker and Forest Guard in the various beats of the forest. In 1966, after completing his Forest Guard Training, he came to Kalighati forest post and since then he has been there.

What are his duties at Kalighati? He has firstly to tie a bait whenever asked to do so. A regular feature once, this practice is largely dispensed with now. In the mornings and in the evenings he has to replenish the artifical water hole. Earlier he had to draw out bucketfuls from the well but now since the arrival of the diesel pump, this onerous task has become considerably easy. He is also the caretaker of the watch tower and has to look after its maintenance.

His other duties include pug-mark tracking and thereby keeping an account of the movement of the animals, especially those of the tiger. He has also to keep his eyes open for stealthy poachers and wood cutters and pilferers. Perhaps the most demanding job he is called upon to perform is to detect illegal grazing, impound cattle and apprehend the grazers.

How does he deal with these illegal activities ? Of poaching, there is none in the core areas, he says. At the peripheries however, it persists. When he was attached to the Flying Squad, he helped catch many sambhar skins and bring the poachers—mostly tribal communities like Meenas and Bawarias—to book. To check grazing, he goes on surprise rounds of his beat and catches the culprits who are later fined. Besides, years of experience has attuned his ears to the faintest sound of crashing axe and he proudly claims that nobody dare chop wood in Kalighati.

Bhanwar Singh recollects a very nasty experience he had quite a few years back when he caught a ranking government official stealing 'kala khair' wood from which 'katha' or catechu is extracted. Uncowered by authority, he proceeded to arrest the unnamed gentleman. An altercation naturally ensued, in which Bhanwar

Singh—one always for a fight—brought down a bamboo pole rather squarely on the head of one of the party members with disastrous results. He was dragged to the courts but as was expected, the Forest Department of Rajasthan, stoutly defended their faithful servant and Bhanwar Singh emerged absolved from all charges.

Such incidents, he says nonchalantly, are a professional hazard. But what of the danger he faces living amidst the wild animals? To his mind there has never been any untoward incident of consequence. Close calls with cobras and kraits during the rains have become commonplace events to get really disturbed about. Sometimes a rogue wild boar gives him some anxious moments. Otherwise, says Bhanwar Singh, wild animals are a peaceful lot and when left untouched are harmless. Animals on their part. probably consider Bhanwar Singh a moving part of the landscape or at best a friendly fellow resident of their habitat.

This is more than evident by the fact that no sooner he finishes his dinner after dark the procupines arrive to scavenge for bits of food. The wild boars pay him a visit too during the day, a variety of birds come to peck at the crumbs. The tree pie is an unusually daring bird. It ventures so close to the plate as if demanding a fair share of the lunch!

And of tigers, there have been unbelievable encounters. Once, as the story goes, when Bhanwar Singh

reached the bait site with a buffalo calf he found a tiger waiting there already. He scolded the snarling cat to be patient and let him discharge his duty of tying the bait first.

At another time Bhanwar Singh was fast asleep on his cot in the night when the Warden arrived in a jeep and to his horror he saw in the beam of the spotlight two tigers around the sleeping man. When the big cats moved away into the dark, the Warden rudely woke him up and chided him for being careless with his life. He was ordered to sleep locked inside his one-room quarter. As soon as the Warden left, he went right back to sleep there itself, unmindful of prowling tigers.

Bhanwar Singh is nostalgic of the past. He recalls a time when there were no roads in Sariska and it was a dense forest, inaccessible and rich in game. Then came the roads and with it an ever increasing flow of people. Some people on the other hand were moved out when the villages of Kalighati and Salopka were shifted out of the sanctuary to make room for the animals. He remembers the Kalighati Watch Tower coming up before his eyes as also the other watch towers, rest houses and the tourist bungalow. All these years the tourist inflow kept on increasing unchecked and since 1979 when Sariska was declared a Project Tiger Reserve, the traffic increased manifold. Over the years he has witnessed Sariska transformed from a lonely stretch of wilderness to a highly marketed wildlife sanctuary in Rajasthan.

Although he laments the change of times, he has nevertheless braced himself for future. In four more years his retirement is due. What does he intend to do then? Go back to his native Jodhpur? No chance. Sariska is his home now and he plans to settle down in a village just on the boundary of the Reserve. Bhanwar Singh has acquired a plot of land allocated by the government and he wants to pass the remaining years tilling the soil and raising cattle.

But for the moment, under the canopy of stars, Bhanwar Singh sits listening to the piercing sounds coming from behind the hill. Alarm calls of chital stags he tells me, this the tigeress with her cubs, he adds with an air of finality. And as we talk away into the night I cannot help but listen like a child to a man who makes the jungle as safe a place as it can be.

# Bird Encounters of the Close Kind

*Rose—Ringed Parakeet (Green Parakeet) is found throughout India in light woodland areas, gardens and parks.*

RAJESH BEDI

How rich in natural life Indian cities are is evident in the frequent sightings of monkeys on rooftops, mongooses and snakes in hedges and shrubs, and vultures and eagles soaring in the sky. At night jackals howl at the stars.

But it is the vast galaxy of birds that is most telling proof of how close most Indian cities remain to the rural and the wild. This can partly be attributed to the Hindu tradition of respect for all life, and also to the availability of niches in the city for the birds to feed and breed in.

A typically Indian bird is the garrulous and incorrigibly quarrelsome common Myna. In contrast to its cousin the Brahminy Myna, which is more gaily coloured, quicker, and carries on in a more dignified fashion, the common Myna possesses an insatiable curiosity and a more vivacious temperament. It is about 11 inches in length, with a dark brown body and yellow bill. It is also an excellent mimic, and makes a favourite house pet.

Birds of prey are in ample evidence. The common Pariah Kite is familiar, with its dark brown colour, long

***Pictures clockwise beginning top left: Spotted Owlet; White-Breasted Kingfisher; Coppersmith Barbet; Stone Curlew.***

PETER KAESTNER

forked tail and shrill mewing cry. Vultures await carcasses in all parts of the city, and two Buzzards, the Honey Crested and the Long-Legged, are frequently seen.

Commonly found near water is the Brahminy Kite, a rusty-red bird with a white head and rounded tail. In Hindu lore it is the vehicle of Lord Vishnu. And in the early morning and late evening hours one can spot the ash-grey and white Shikra, with its dark meridian stripe on the throat, as well as the Hawk eagle.

***Photoeditor Bedi took this picture of a spotted dove nesting in the banana tree in his garden.***

From his garden in the heart of Delhi a bird-watcher once saw, in a row, a Benelli's eagle, a Pallas fishing eagle, and a steppe eagle. The last is the commonest of the migrant eagles.

Then there is the Tawny eagle, a resident bird, usually seen around rivers and occasionally around refuse dumps. To many, this eagle symbolises imperious strength. It has a majestically fierce mien, with stern eyes, a viciously hooked beak and predatory talons—and is ever ready to kill. But its ferocity is matched by its great solicitude towards its own kind.

Commendably qualified with pugnacity and courage is the Black Drongo or King Crow, which flies the skies with regal grace. Mynas which dig out worms are often tricked out of them by this lazy hunter. The King crow guards his nest with ferocity, and in doing so guards the nearby nests of other birds. No wonder Orioles and Red Turtle Doves usually build nests near Drongos.

With the first light of dawn the grating cawing of the ubiquitous crow can be heard. This scavenger is capable of eating anything from mice and insects, to young birds and eggs, and plucks ticks off cattle. It figures prominently in Indian fairy tales and myths: one belief has it that its repeated cawing from rooftops heralds guests to a house, another that it always has foresight about events yet to occur.

The crow is an irrepressible tease, and troubles almost all other animals. In addition, it is addicted to thieving and delights in carrying off anything bright. In colour it is a deep glossy black except for the nape, ear covers, back of the head and breast which are a light ashy grey. Its black plumage has highlights of purple, blue, and green which give it the name Corvus Splendens.

After a crow lays its eggs, its nest is often seized by the lazy and clever Koel, a member of the Cuckoo clan, which never builds its own nest. It may even push out the crow's eggs, and proceed to lay its own in their place. Surprisingly, the alert and intelligent crow remains unaware of what has happened and returns to nurture the Koel's eggs with love and care.

The male koel is glistening black, with a yellowish-green bill and crimson eyes, while the female is a drab brown with white spots on the head. It has a musical voice when heard in spring, and in Indian poetry it has been used as a symbol of worthiness.

Another member of the Cuckoo family that is a common monsoon visitor, is the Pied-Crested Cuckoo. With its back glossed with green from crest to tail and pure white underneath, it is seen singly or in pairs in gardens and woods. Often it can be seen perched on telegraph wires. The ashy brown Hawk Cuckoo or the Brain Fever bird, so named because of its incessant reiteration of the same sound, is also an occasional visitor. The Crow Pheasant or Coucal (a misnomer as it is neither a pheasant nor a Crow but actually a member of the family Cuculindae or Cuckoo) is a bird which has a richly coloured plumage. Its most charming feature is perhaps the three or four repeated hoots it utters in deep booming tones accompanied by a comic bow of its head. An interesting fact about this bird is that unlike all other Cuckoos, it builds its own nest and hatches and tends its young. This bird too is constantly seen in the monsoons.

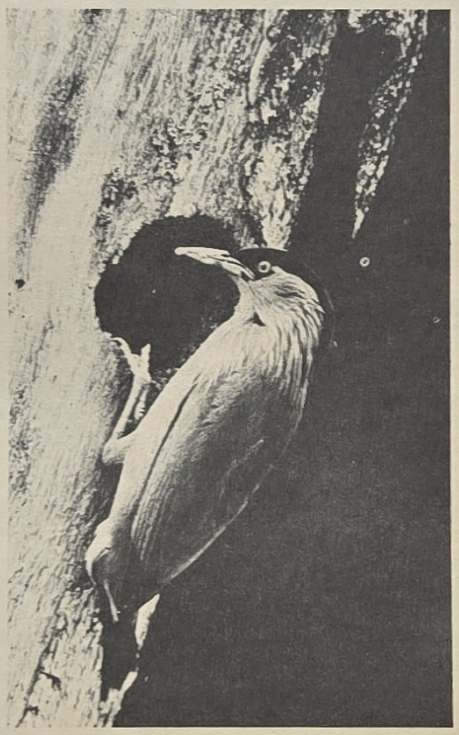
Tumbled ruins with fragments of palaces and cracked, crumbling gateways abounding with lofty niches are well suited as nesting sites for the slaty-grey Blue Rock Pigeons. Pigeons and doves pair for life and live happily ever after. The little Brown Dove is rightly portrayed as the symbol of peace and gentility. It generally lives

on trees and rarely quarrels. It is ash-brown with a narrow black half collar on the hind neck, while the neck, head and breast are a lilac grey. Less confident and a little smaller in size than the pigeon, it maintains a slight distance from humanity. Infrequent visitors are the Red Turtle Dove, the Spotted Dove, and the Indian Ring Dove.

Old ruins are also used for nesting by some Owls, Parakeets, Swifts, Redrumped Swallows and Dusky Carg Martins. The Martin is a uniformly sooty-brown bird with a short square tail, slightly smaller than the House Sparrow, and can usually be seen in small numbers in company with Swallows. The Owls are primarily nocturnal birds of prey feeding on insects, frogs and lizards. Most common is the spotted Owlet which is a squat, white-spotted brown bird with the typical large round head and staring yellow eyes. The Barn Owl, Collared Scraps Owl and the Great Horned Owl are also occasionally seen. The House Swift is a familiar resident. It is an aerial bird with long narrow wings and a short, slightly forked tail that enhances its speed.

Sparrows are extremely unfussy regarding the choice of their nesting place—even occupied houses will do. The yellow-throated Sparrow has a conspicious lemon yellow patch on the throat. The house sparrow hangs around any human habitation. It's loud vulgar irritating call notes are all too familiar.

The elegant plumage of the Green Parakeets abound in plenty on fruit trees. In winter, they spend their days in large flocks either in flight accompanied by screaming calls, or chatter sociably and incessantly on tree tops. They do a great deal of damage to crops and fruits. Two other varieties of parrots sometimes seen are the Large Indian Parakeet and the Blossom-headed Parakeet, which is the smallest of the three and has an orange hooked bill instead of the usual red one.
The riverine sandbanks attract Little Ringed Plovers, Great Stone Plovers, Redwattled lapwings, Terns, Skimmers and Stone Curlews for nesting. Hole nesters like the Bank Myna, Kingfisher and Sand Martin use vertical banks. A frequent visitor to gardens is the White-Breasted Kingfisher which is shadowed with a snow-white front, dark-red beak, chestnut brown flanks, gorgeous blue wings and coral red legs. It prefers hunting to fishing and consequently kills grasshoppers, worms and lizards besides diving for fish. The Pied Kingfisher is a handsome specimen

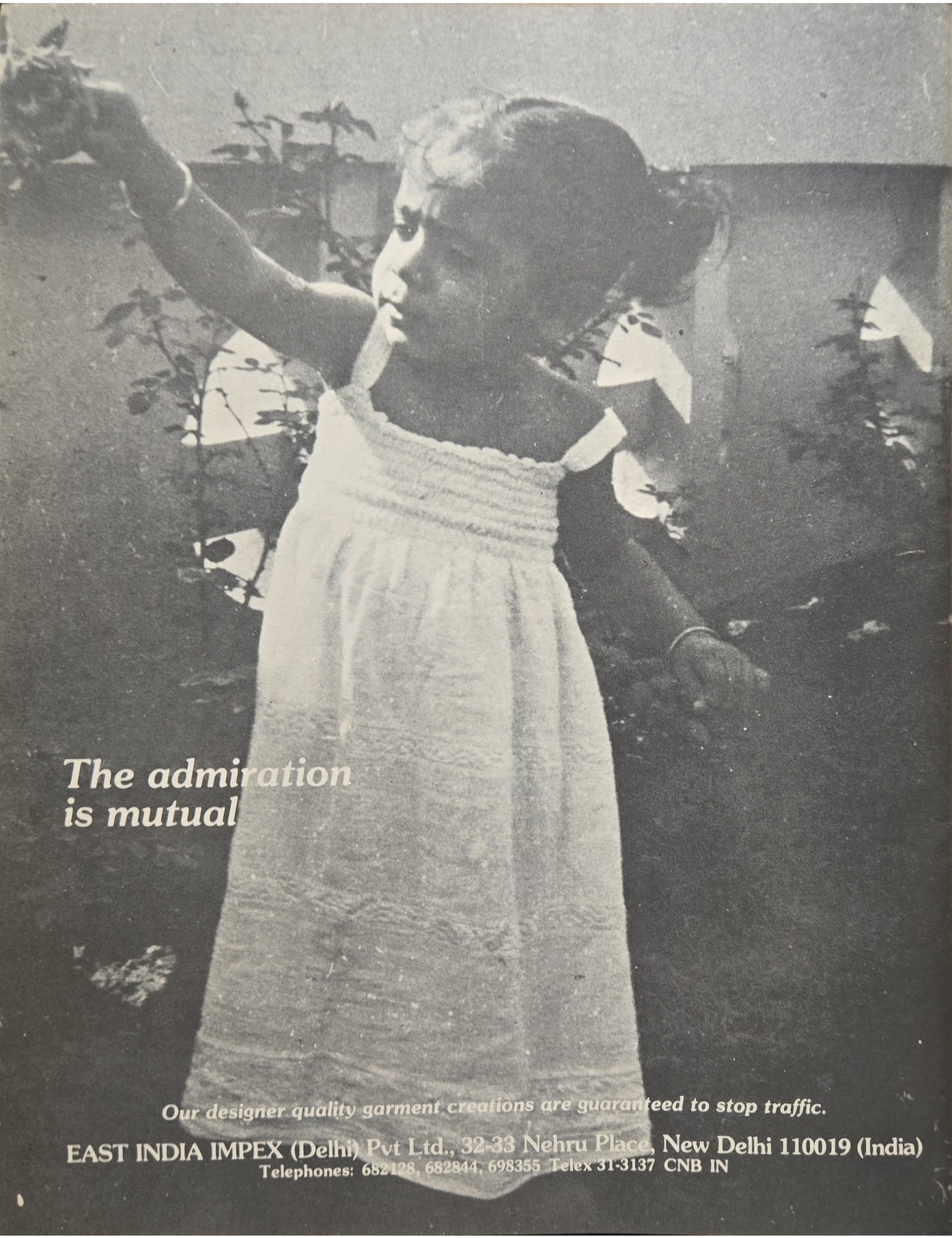


***Black headed mynah.***

quite noticeable because of its considerable size. It measures 12 inches from the point of its long beak to the tip of its short tail, and feeds entirely on fish. Short clumps of grass on river banks and the edges of ponds are the favoured nesting sites for Wren Warblers, Fantail Warblers, Rufousfronted Warblers, Partridges, Larks and Pipits.

Parks, gardens and trees by the roadside provide nesting dens for many perching birds and tree-hole nesters. Commonly found in many Indian cities are the Crimson breasted Barbet and the Green Barbet. The former is more familiarly known as the Coppersmith Barbet because it utters a single monotonously reiterated call note, which has a metallic sound reminiscent of the tap of the coppersmith hammering his wares. It is a decorative grass-green bird with a heavy bill, crimson breast and forehead and a short square tail. It can be seen in small groups on Banyan and Peepal trees. The Green Barbet is nearly twice the size of the Coppersmith, measuring 10 inches to the latter's 6 inches. It is also less attractive and more ill-tempered and quarrelsome. Among Woodpeckers, the colourful, large form of the Golden-backed woodpecker is often seen chipping away at the bark of trees or screaming raucously during its short undulating flights.
Along swamps and marshes are Purple Herons and Night Herons, Bitterns, Crakes and Moorhens. Standing in or near water are large Egrets, smaller Egrets, Little Egrets and Cattle Egrets with Cormorants and the occasional stork. They feed leisurely on the myriad insects emerging from the water. Pools full of water hyacinths support nests of Dabchicks, Pheasant-tailed Jacanas and Whiskered Terns.

Winter brings over a hundred species of migrant birds. First to arrive is the beautiful quartet of White Wagtails, Black Red-starts, Lesser White Throats and Hume's leaf Warblers. Among ducks the first to reach is the Pintail Duck quickly followed by the Shoveller, Garganey, common Pochard, Gadwall, common Teal and sometimes the Wigeon and Mallard as well. In spring, the birds start to leave suddenly and in large flocks. On an early spring evening as many as 900 White and Yellow Greyheaded Wagtails can be seen flying north to their breeding grounds. Rosy Pastors pass through, accompanied by leaf Warblers and Reed Warblers followed by Wrynecks, Lesser White throats and Redstarts. By the first week of May, the Redheaded, Blackheaded and Crested Buntings, Marsh Harriers, Greenshanks, Falcons, Stints, Stonechatt and the few Fly Catchers have all gone.

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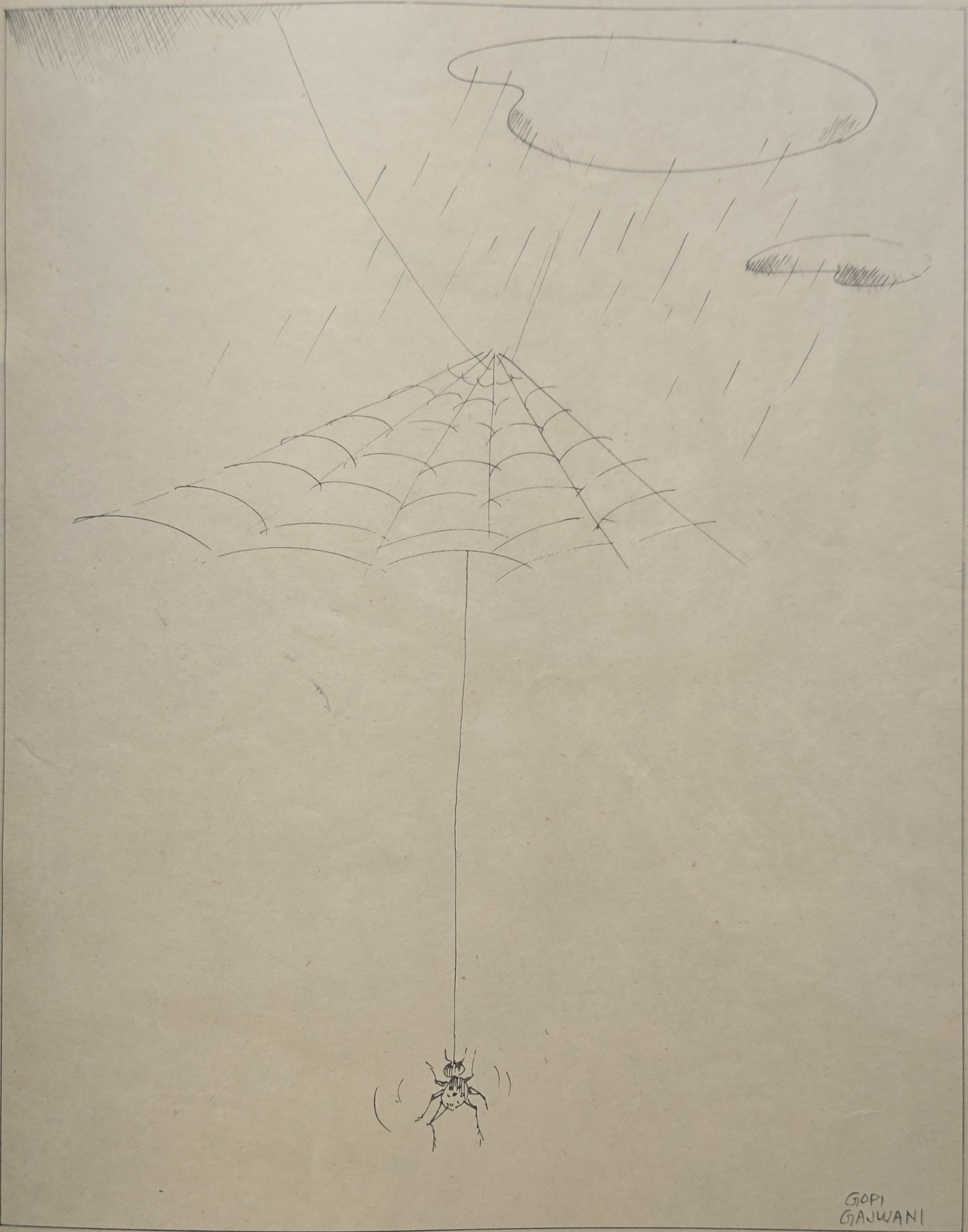
GOPI
GAJWANI

*The Hangul or Kashmir Stag is a threatened species and their estimated number is only about 400 heads, located mainly at Dachigam and neighbouring reserves. Normally the horns carry 10 points and a real royal symmetrical 12 pointer (Barasingha) is hard to get.*

# 'Dachigam'

## A Tale of Ten Villages

by James J. Mandros

***While India is widely recognized as one of the world's richest repositories of plant and animal wealth, not many are aware that in Jammu and Kashmir state the exciting development of a unique sanctuary system is rapidly taking shape.***

On a cold rainy morning on the verandah of the forest resthouse at the foot of Lidderwat valley, 12 kms above Arru in Kashmir's magnificent mountains, a Gujjar (a seasonally migrating shepherd) of about 50 years of age is standing talking very earnestly to a young research officer of the Jammu and Kashmir State Wildlife Warden's staff. What he is saying would thaw the heart of the most pessimistic conservation worker. This illiterate, hardy and straightforward hillman is telling the young environmental scientist that he realizes that the Overa Sanctuary nearby where he lived and freely grazed his sheep until three years ago is in much better shape than it ever was at any period during his lifetime. Now that he has been moved out of the sanctuary area, he and his people are given limited term (3 to 6 weeks) grass cutting permits in controlled zones of the sanctuary and its buffer areas. He says with great sincerity "We now cut more grass in ten days than we could find in 6 to 8 months when we could move freely through these hills". He also says that he sees more wild animals including the noble Hangul or Kashmir stag and that for the good of all, including himself, the Wildlife and Forestry planners were right to protect this area. He goes on to talk about his own wildlife sightings, the numbers of sheep and cattle in the area by owner and who still keeps guns among the Bakarwals (the more well to do herders who keep larger flocks of sheep and goats and a fair number of mountain ponies and historically shoot wild game both to protect their animals but all too often in a pattern of poaching to make extra money). Although our survey of the Dachigam Sanctuary which we were entering via Lidderwat was postponed that morning by the rain, I could not have learned more about the meaning of Dachigam and Kashmir's sanctuary system than was revealed in that pregnant conversation.

During the past three and a half years, the Jammu & Kashmir State Deputy Chief Wildlife Warden, Mir Inayat Ullah and his staff have been working to organize and develop a world important sanctuary system, with the staunch support of the Chief Minister and with the encouragement of the Government of India.

Building upon the intricate system of 'rakhs' (game reserves and sanctuaries) organized by the last Maharajah of Kashmir and his predecessors, Dachigam which means 10 villages just 20 minutes by car outside of Srinagar city, has been developed as part of a comprehensive integrated system of critical natural areas. This system is almost unparalleled in the world both in terms of natural significance and in the modern, farsighted way it is being brought about.

The heart of Kashmir's sanctuary and park system is the Dachigam Sanctuary, an undulating, mountain and valley system of 141 sq. km. beginning 21 kms. north-east of Srinagar, extending from 5000 ft. at lower Dachigam upwards to over 13,000 ft. in the high, alpine valleys and lake areas approximately 25 kms. away.

The Maharajah of Kashmir realized that this fabulous naturally enclosed watershed is the vital natural source of much of Sringar's water. At the same time it provides an incomparably beautiful habitat for the critical elements of Kashmir's wildlife.

Large animals readily found in the Dachigam National Park (which is also to become part of the Man and Biosphere Reserve (M.A.B) program of the United Nations) include the magnificent Kashmir stag or Hangul (Cervus elaphus hanglu wagner), the Himalayan Black Bear (Selenarctos thibetanus), the Musk Deer (Moschus moschiferus), the Serow (Capricornis sumatrensis), the Himalayan Langur (Presbytis entellussehistaceous), the Indian Wild Boar (Sus scrofa Cristatus), the Himalayan Brown Bear (Ursus arctos), the Snow Leopard (Panthera unicia), and the Leopard (Panthera pardus). Other large mammals include the Leopard Cat (Felix bengalensis), the Jackal (canis aureus), the Red Fox (Vulpes vulpesmontana), the Himalayan Yellow Throated Marten (Martis flavigula), the Common Otter (Lutra lutra), the common Mongoose

(Herpestes edwards), the Himalayan Marat (Marata bobas), the Himalayan Mouse Hare (ochotoma roylei), the Bengal Cat, etc.

The Avi fauna include over 150 key birds including Kashmir's famous Himalayan Monal pheasant, the Indian Black Partridge, the Chakur, the Himalayan Griffon Vulture, the Himalayan Golden Eagle, the Black Eared Kite, the Long Legged Buzzard, the Crested Honey Buzzard, the Indian Sparrow Hawk, several falcons, doves, parrots, cuckoos, swifts and numerous other species such as the spectacular Yellow Grosbeak.

This brief, incomplete listing of fauna is only meant to indicate some key examples of wildlife found in the now fully protected environment of Dachigam. As noted earlier, this unusually secure natural sanctuary is the central gem in a new integrated biosphere reserve system vigorously undertaken in the last few years, building upon an enlightened and unusually far sighted earlier scheme begun by the Maharajas of Kashmir. What makes the Man and Biosphere Reserve system of Kashmir of world significance is the way Dachigam is being linked via contiguous ridge lines into a comprehensive Kashmir natural park and sanctuary system. This system includes the Overa—Arau Man and Biosphere Reserve of 425 sq. kms. located 66 kms. south of Srinagar and bordering Dachigam on the west (elevation at Overa reserve ranges from 2250 Mts. to 6000 Mts. near the Kolahai Glacier). Although not contigious, the Gulmarg biosphere reserve of approximately 180 sq. kms. located 40 minutes by car South West of Srinagar completes the natural system.

Together these areas form one of the most magnificent high mountain nature preserves anywhere in the world encompassing virtually all the floral and faunal treasures of Kashmir's special environment. Large animals such as the Kashmir Stag (Hangul) can migrate upwards or downwards seasonally without direct contact with human settlements, with minimal yet controlled contact with migratory shepherds and their flocks, and without interfacing directly with the principal commercial forestry areas of this still magnificently timbered state.

A 140 kms. walking tour of Dachigam and Overa, combined with earlier visits to the Gulmarg area convinced me that Kashmir's biosphere reserve plan will in years ahead prove to be one of the critical alpine heritage area left on our struggling planet.

This conservation system becomes even more significant if you consider the unusual geographic/climatic situation of high Himalayan Kashmir which is located far below the typical latitude of temperate to near artic (depending on elevation) area. The natural enclave which does not receive direct monsoon rains is surrounded by tropical areas of totally differing floral and faunal resources which are all affected by full monsoon climates.

This odd geographical juxtaposition of temperate and tropical biospheres has had powerful biological significance in the entire evolutionary scheme of

# Hangul! Hangul!

***Notes from a trek by Lois J. Mandros***

The increasingly spectacular views of the Pir Panjal across the valley as well as the warm, sweet milk and corn bread offered to us by Gujjars we met on the trial provided many welcome excuses for rests and though the "top" of the ridge was elusive, we finally rounded the last stony abutment and found ourselves looking into the seemingly limitless undulating meadows of Upper Dachigam. Bounded on three sides by high ridges, Upper Dachigam consists of a large watershed carrying Srinagar's water supply down from Lake Marsar through the Dachigam Nullah, which is also fed by the numerous gullies or nars draining from the side valleys. In the late afternoon sun we followed an idyllic path through the rich flower laden green meadows interspersed with groves of white birch until we suddenly rounded a bend to find the beautifully proportioned, strikingly constructed hunting lodge of Sangargulu, built by the former Maharaja and hidden in the upper meadows. At sunset we left for the short walk to a giant boulder at the head of the valley to watch for hangul. The scale of the valley, its stillness and isolation were strikingly accentuated when we finally spotted four hangul grazing on one of the hills enclosing the valley, almost impossible to see with the naked eye.

We had just broken journey for a cup of tea in the Gratner forest bungalow when an enthusiastic guard shooed us out of our room with the promise that we'd shortly see a hangul coming for an evening feed. Rather skeptical about any hangul venturing so close to a camp full of people and ponies, we nonetheless had just emerged into the green when a beautiful young male emerged from the underbush, sniffed cautiously for a minute, and then calmly ambled around the lawn grazing for about twenty minutes, until he slipped back into the bush. A somewhat weak yearling, our guide speculated that he had probably been orphaned and was learning to make his own life as hanguls normally stay with the mother in a small group for about two years. Even more surprising was a second visit he paid to us that night about midnight, this time walking noisily up and down the long wooden porch of our bungalow, possibly enjoying the cookie crumbs which had fallen on the floor.

***A Gujjar and forest officer exchange note on recent developments in Dachigam National Park***

things in the subcontinent. India and the world will undoubtedly come to realize more fully the wisdom of Kashmir's Man and Biosphere Reserve system when that plan is viewed in the macroperspective which lies at the heart of the United Nations Man and Biosphere (MAB) program.

In closing, I would be remiss if I did not note how socially conscious the recent development of this biosphere reserve system has been. All the planner's interactions with shepherds, farmers, hunters, commercial forestry interests and developers have been consistently sensitive and have involved the participation of those whose economic and social interests border directly on the biosphere reserve areas. Confrontation has been practically non-existent and local participation and ongoing education have been remarkably effective.

Kashmir's approach to wildlife and habitat protection is visibly sound both ecologically and socially and the entire system, when more fully understood both domestically and internationally, may well provide a much needed example of how to proceed elsewhere in preserving key elements of our natural heritage. Last but not least, this global heritage gem has been developed in a part of the world where illiteracy and grim economic conditions make such enlightened and effective cooperation extremely difficult.
Perhaps, in the last analysis, it is the Kashmiri's sense of natural heritage itself which should both inspire and instruct us.

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